MASS PHYSICAL TRAINING

FOR USE IN

The Army and the Reserve Officers' Training Corps

BY JOSEPH E. RAYCROFT, A.B., M.D.

PROFESSOR OF HYGIENE AND PHYSICAL EDUCATION, PRINCETON UNIVERSITY; MEMBER OF WAR DEPARTMENT COMMISSION ON TRAINING CAMP ACTIVITIES, AND CHAIRMAN ATHLETIC DIVISION; MEMBER OF AMERICAN PHYSICAL EDUCATION ASSOCIATION; MEMBER OF SOCIETY OF COLLEGE DIRECTORS PHYSICAL EDUCATION; MEMBER OF ATHLETIC RESEARCH SOCIETY; MEMBER OF NATIONAL INSTITUTE SOCIAL SCIENCE, ETC.

PREFACE BY H. A. DRUM

BRIGADIER GENERAL, U. S. ARMY
ASSISTANT CHIEF OF STAFF G-3

FOREWORD BY W. G. HAAN

MAJOR GENERAL, GENERAL STAFF.
CHIEF, WAR PLANS DIVISION

WASHINGTON:
UNITED STATES INFANTRY ASSOCIATION
1924

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PREFACE

I am glad to know that the Infantry Association is publishing a new edition of Dr. Raycroft's excellent book on "Mass Physical Training". In it is embodied much valuable instruction growing out of our experience in preparing our Army for duty in the World War. The fact that a new edition of this work is now necessary, indicates that its value is appreciated.

Under Dr. Raycroft's direction, millions of men, during the World War, had their first knowledge of the advantage of systematic physical exercise, and by reason of his wide experience in this field, he is exceptionally well qualified to write upon this subject, which is yearly attaining a position of greater prominence throughout the world. The subject matter is so arranged that it is well adapted for the use of small as well as large organizations.

I congratulate the Infantry Association on its enterprise in publishing this new edition, and I am sure that the reduced cost of the work will put it in the hands of a much larger number of people who are engaged in the task of physical education, and to whom this book should prove of real assistance.

BRIG. GENERAL, U. S. ARMY
ASSISTANT CHIEF OF STAFF, G-3

FOREWORD

The text of this book has been prepared by Doctor Joseph E. Raycroft, who was chairman of the Athletic Division of the War Department Commission on Training Camp Activities, and as such, under the supervision of the Training and Instruction Branch of the War Plans Division of the General Staff, had charge of the physical upbuilding of the great force which the United States contributed to the World War and which constitutes a remarkable chapter in the history of the military operations of our Country.

Under his direction, millions of men to whom physical training and athletics had been a sealed book, were introduced to the advantages of systematic physical development. Hundreds of thousands of them were taught for the first time how to combine health-giving exercise with play in the form of athletic games and sports. It furnished a striking demonstration of the value of such activities in the basic training of the soldiers.

Months were spent in experimenting with and testing out systems and schemes of training and instructing in the subjects covered. In this work Dr. Raycroft was assisted by the best talent available—masters in every phase of physical culture and development. Experts in every field of athletics and sports joined with him in placing their years of experience at the disposal of our military forces. For the first time in military history losses from sickness and disease were less than those from bullets, an achievement, due in no small measure, to the magnificient physique with which our soldiers, in consequence of their physical training, entered the struggle.

Out of all of these activities much valuable experience has been gained and a great mass of material has been accumulated. Dr. Raycroft has undertaken to preserve his experience and that of his assistants in a permanent form. This book is the result, and is based on the work of the divisional and central schools of physical and bayonet training in operation during

the war and after the Armistice was signed. In so doing, he has conferred a lasting benefit on our manhood, a benefit which the War Department sincerely desires to recognize and promote.

This book was submitted to the War Department for publication as an official document; but in view of the delays that would probably be involved under this plan, it was decided that Dr. Raycroft should be requested to publish the book privately under his own name, so that it might be available at the earliest possible moment for use in the army.

To this end, this book has the approval of the War Plans Division of the General Staff. Its contents will form the basis for the training and instruction of the military service of the United States in the subjects included.

It is highly recommended for use at all institutions where physical, athletic, and recreational training are carried on.

W. G. Haan,
Major General, General Staff.
Chief, War Plans Division.

December 22, 1919.

INTRODUCTION

The value of physical fitness in a soldier has always been recognized as of prime importance. The programs of physical training that were commonly used in modern armies before the war consisted in the main of calisthenics and made little if any systematic use of the other phases of physical training and athletics. These calisthenic drills when well taught have a real value in securing good posture and accurate response to the spoken order. This, of course, is of great importance in the early training of a recruit, but at best represents only the primary grade in a soldier's training.

One of the most important of the many lessons which have come from the war is the demonstration of the fact that other types of physical activities besides calisthenics are not only extremely useful in the contribution which they make in the development of important soldierly qualities, but that they are capable of being used as an integral part of the formal program of training. Group games, wrestling, boxing, hand-to-hand fighting and other personal contact drills give the soldier a kind of training which he can get in no other way short of battle experience. The inclusion of such activities in the regular training gives to the recruit, in a very effective way and in a relatively short space of time, an invaluable mental and physical experience and contributes greatly to the development of confidence and effectiveness in combat. In other words, activities of this type are an essential supplement to the disciplinary training received from the close order drill.

The difference between the trained recruit and the seasoned soldier is not alone a question of physical strength, endurance and general fitness, but it is also one of mental attitude. The seasoned soldier has, through a long experience, acquired confidence in his own resourcefulness and ability to take care of himself either with or without his weapons. This mental attitude which characterizes the seasoned campaigner is, in the

majority of cases, dependent upon the type of active service which he may have experienced, and has been in the past of slow growth and largely a matter of chance.

It is of course recognized that there is nothing like actual field and battle experience to develop soldierly qualities. On the other hand, and this is the crux of the whole matter, the experience of the armies during the war has demonstrated that it is possible, through a comprehensive program of physical training, to bring the recruit very much closer to the standard of the seasoned soldier as regards mental and physical preparedness than it was by the old methods.

Furthermore, this all-round physical training provides a progressive and systematic experience in simple wrestling, personal contact drills, boxing, and vigorous hand-to-hand competitions that have proved to be a most important factor in developing those qualities and elements of character which are based in large part upon physical experience, and which give poise, confidence, determination, and individual initiative in an emergency.

The problem of the Army was, and is, a double one—First, to give recruits such a course of Physical Training as will develop bodily control and alertness and will render them capable of acquiring and using the professional technique of a soldier in the shortest time possible; and, second, to systematize and promote those forms of physical training that are recreative in their nature and that promote the development of individual leadership, group loyalty, contentment, and a pride in physical efficiency.

Every officer who has had front-line experience has scores of times seen a demonstration of the value of quickening exercises and simple athletic games as a means of restoring the soldier to a normal mental and physical condition and of preventing morbidness and homesickness after a long tour of duty in the front lines.

The training material in this manual has been collected from many sources, both native and foreign, and no hesitation has been shown in adopting or adapting methods that have

been found useful in the armies of our allies, nor in trying out any procedure that seemed to have merit and promised results.

This manual is compiled for the purpose of making the material and experience available in permanent form for use in training the Army and the Reserve Officers' Training Corps.

The program outlined has been successfully tried out, as a whole or in part, under the most severe conditions during the intensive training in this country, in the camps in France since the Armistice, and in the R.O.T.C. camps during the past summer. The testimony as to the value of this comprehensive program of physical training as an essential part of the army training under these widely varying conditions is positive and unmistakable. The principles upon which the work is based are sound and furnish a firm foundation upon which to build the future work in the Army in the basic training of soldiers. The types of activities chosen and the contribution which each class of work makes to the object sought, may be stated briefly as follows:

1. **Physical Drill** for **disciplinary training** and **education in body control,** and not for **exercise as such.** The daily program of the soldier, comprising as it does seven or eight hours of active outdoor work, provides all the physical exercise that is required to make and keep him physically fit. The emphasis then in this drill should be placed upon securing good posture, freedom of movement and accurate snappy response to commands.

2. **Group Games** introduced into the formal program give to the soldier a type of training in which he gets orders just as truly as he does in his formal drill, except that these orders are expressed in terms of rapidly changing conditions during the progress of the game. His repeated effort, spurred on by emotional stimulus and the spirit of competition, to adapt himself quickly and successfully to these changing conditions, gives him an intensive training in alertness, discrimination and determination. This training is even more mental and psychic than it is physical.

3. **Drills in Personal Contact,** such as wrestling, boxing, and hand-to-hand fighting, develop concentration of attention,

mental and physical alertness, a spirit of aggressiveness and confidence, and the ability and willingness to carry on in spite of punishment.

4. **Individual Efficiency Tests,** and the drill in the various events, stimulate the soldier to make the effort to attain a certain fixed standard, and serve also to call the attention of the Commanding Officer to those weak and inefficient men who need special attention and work to enable them to overcome their deficiencies.

5. **Mass Athletics and Competitive Games**—either as a part of the formal program or as a leisure time activity—have great value in the development of group loyalty, team work and leadership.

6. **Bayonet Training** is invaluable in the basic training of soldiers in all branches of the service as a means of developing confidence, determination, and a fighting spirit.

In other words, this comprehensive plan of physical training makes it possible to carry the recruit far beyond the point of soldierly efficiency acquired through close order drill alone, and develops in him those fundamental qualities of resourcefulness, leadership and fighting spirit, which characterize the high-grade, seasoned soldier.

To secure the greatest benefits for the Army from this work two things are necessary: First, to include it as a part of the basic training of every officer so that he will be as well qualified for leadership in the full program of physical training as he is in close order drill; and, second, to provide in a central school or in the service schools advanced courses that will train and qualify experts who will serve as inspecting instructors and thus keep the work on a high plane of efficiency.

I am glad to make in this place hearty acknowledgement of the most valuable assistance and coöperation rendered by a large number of Civilians and Officers. I am especially indebted to all the Athletic Directors, Special Instructors and Physical Training Officers who contributed so generously of their technical training and experience and whose work in the Camps made

it possible to organize this system and put it into operation during the war; to Major J. E. Drain, Captain C. L. Brosius, Lieutenant Brooke Leman, Mr. Geo. Huff and Mr. Fred W. Luehring of the staff of the Physical and Bayonet Training School established at Camp Benning after the Armistice; to Colonel Murray, Colonel W. H. Waldron and Lieutenant Colonel Elvid Hunt of the Training Section, General Staff; to Major Elliott V. Graves, Education and Recreation Branch—War Plans Division; and finally to Major John L. Griffith, Executive Officer, Athletic Division, Commission on Training Camp Activities, and Senior Instructor, Special Course in Physical and Bayonet Training, Camp Benning, September, 1919; Captain Thomas J. Browne, Senior Instructor, Central School of Physical and Bayonet Training, Camp Gordon, Ga., 1918; M. J. Gibbons, Instructor of Boxing and Hand-to-Hand Fighting, School of Physical and Bayonet Training, Camp Gordon, 1918; George V. Blake, Instructor of Boxing and Hand-to-Hand Fighting, Physical and Bayonet Training School, Camp Benning, 1919; Dr. Norman B. Tooker, Athletic Division, Commission on Training Camp Activities; Jonathan A. Butler, Secretary, Athletic Division, Commission on Training Camp Activities, who have been so intimately associated in the development and administration of this whole plan, I wish to express my sincere appreciation for most efficient work and unfailing loyalty and support.

JOSEPH E. RAYCROFT.

CONTENTS

CHAPTER		PAGE
I.	Purpose of Work and Standards for Judging Progress	1
II.	Setting-Up Drill	4
III.	Games Adapted for Use as a Part of the Formal Drill Period	34
IV.	Quickening and Skirmishing Exercises	40
V.	Personal Contact Drills	49
VI.	Line Wrestling	59
VII.	Hand-to-Hand Fighting—Including Disarming Methods	71
VIII.	Boxing	84
IX.	Bayonet Training	103
X.	Physical Efficiency Tests	142
XI.	Group Games and Mass Athletics	149
XII.	The Conduct of Meets and Contests	178
XIII.	Strategy and Tactics of Highly Organized Athletic Games	201
	a. Football.	
	b. Swimming and Life-Saving.	
	c. Baseball.	
	d. Basket-ball.	
XIV.	Camp Athletic Organization	280

MASS PHYSICAL TRAINING

CHAPTER I

Purpose of Work and Standards for Judging Progress

PURPOSE OF WORK

The object of the course in physical and bayonet training is to give the recruit in the shortest practicable time an intensive, all-round training which will develop in him those qualities and abilities that characterize the trained, experienced soldier. This object may be analyzed under four heads: (1) Bearing; (2) Physical and mental control; (3) Ability in personal combat; and (4) All-round physical efficiency. The progress of the recruit in training may be judged by his ability to meet these standards.

1. **Bearing:** Well poised, neat appearance, alert, self-respecting and well disciplined, smart and effective in all movements.

2. **Physical and Mental Control:** Well coördinated, instant in response to commands, quickness of decision, initiative, persistence, shiftiness, resourcefulness, willingness to give and take punishment, nerve, strength, and endurance.

3. **Ability in Personal Combat:** A good knowledge of the fundamentals of boxing, wrestling, and hand-to-hand fighting, skill in the use of the bayonet and in disarming and disabling methods, ability to acquit himself creditably in a three-round bout with a skilled boxer of his own weight.

4. **All-round Physical Efficiency:** To be trained to such a state of physical efficiency that he will be able to qualify in the following tests:

1. 100 yards in 14 seconds.
2. Running broad jump of 12 feet.
3. Climb (unassisted) an 8-foot smooth wall.

4. Throw a hand grenade 30 yards into a circle 10 feet in diameter.
5. Run over a standard obstacle course (description on page 38) in good time—30 seconds.

The application of the foregoing tests from time to time during the course (modified to suit the period of training) will serve to give a basis for judgment as to the effectiveness of the work and the rate of progress of the individual recruit. It will, at the same time, furnish interest and stimulus to the men in training.

Men who can pass the above standards and tests—bearing, mental and physical control, ability in personal crmbat, and the physical efficiency tests—will be able to aquire the technique of the various phases of military training in the possible time.

The Best Period for Work: The work in physical and bayonet training should be given in two daily periods of not less than one hour each; one in the morning and one in the afternoon. The morning period should come not less than an hour and a half after the morning meal. The program should consist of formal setting-up drill, group games, boxing, personal contact drill, line wrestling, quickening and skirmishing exercises, hand-to-hand fighting, and bayonet drill. The afternoon period should end not less than half an hour before retreat and should consist of mass athletics, training for physical efficiency tests, and other competitive activities.

Costume: The uniform worn during these drills and competitions should be one which gives freedom of bodily movement and is not easily injured by coming in contact with the ground.

Size of Unit for Instruction: The platoon is the best unit for regular instruction, but every week or two, companies or entire battalions should be brought together for setting-up drills and mass training in boxing and hand-to-hand fighting, in order to develop *esprit de corps* and the habit of mass action. (See Fig. 1.)

Singing and Voice Training: Singing, and voice training by "self-command," should be utilized to add interest to the work

and to give the recruits ability and confidence in the use of their own voices.

Qualities of Instructors: Instructors in physical and bayonet training should be specially trained and qualified junior officers or non-commissioned officers who should be the embodiment of physical efficiency, enthusiasm, and leadership. They must be prepared to demonstrate and take part in the actual performance of the work as well as to give commands. They must be thoroughly familiar with, and proficient in, all phases of the work they are directing.

FIG. 1.

Arrangement of Program: The programs of work must be so arranged as to give a proper amount of time to each phase of training and to furnish a progression for the purpose of securing greater speed, vigor, and accuracy in the performance of the movements. It has been found practicable to apportion time about as follows:

Daily [on prescribed drill days] setting up drill, 25 to 10 minutes; personal contest drill, 5 to 10 minutes; group games, boxing, physical efficiency tests, or hand-to-hand fighting, 10 to 15 minutes; or bayonet fighting and quickening and skirmishing exercises, 30 minutes.

The program as regards selection of activity and time assigned to each branch of work, will be modified by the progress of the group being trained. It is generally advisable to conduct a given program for at least one week without change.

CHAPTER II

Setting-Up Drill *

Scope: The scope of the setting-up drill is limited to movements and combinations of movements that are simple, can be used without apparatus, are easily learned, and that are adapted to camp and field conditions.

Purpose: The purpose of this drill is to give the recruit as an individual a general, fundamental training in body control, good posture in every movement, and the ability to respond instantly and accurately to the spoken command. It will also transform an untrained mob into an orderly disciplined group.

Value: The value of this drill is primarily educational and disciplinary, so that the emphasis should be placed upon gaining this result rather than upon giving movements for exercise and development. The feeling of fitness and the confidence in his ability to perform the movement called for by the command, which results from a carefully arranged and administered series of drills, encourage the growth in the recruit of self-confidence, mental and physical alertness, and an erect, soldierly bearing. In other words, setting-up drills furnish a most important element in the basic training of the recruit and the development of personal efficiency and soldierly qualities.

Guiding Principles in Teaching: 1. Commands should, so far as possible, call for movements that involve useful coördinations and should aim to build up natural automatisms rather than to execute all possible forms of gymnastics.

2. The progression, then, should aim for an increase in accuracy, vigor, promptness of response, and improved posture rather than to the performance of complex combinations of movements. The trunk movements should be graded from the easy to the more difficult.

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* Adapted from Major Koehler's Field Physical Training.

3. Contracorrective movements should not be given; that is, exercises which further lengthen muscles already too long or shorten muscles already too short. In other words, there should be no lifting or rolling **forward** of the shoulders, or bending **forward** of the head or neck, or hollowing of the back.

4. Main stress should be placed on exercises of the muscles of the neck, upper trunk and spine, which have most to do with posture. The minimum amount of time should be given to the legs, as they can be trained in a more useful and effective way in vigorous games and athletic activities.

5. Sections and their instructors prefer exercises with which they are familiar, provided they are well taught and performed well. They like but little change. Hence, put the basic or key movements in the early lessons and build very slowly on them, and only in the way of increasing the speed of response, strength or endurance required, and not in mastering peculiar, complex combinations.

6. The setting-up drill should not occupy more than twelve to fifteen minutes. Short, snappy drills full of "pep" and enthusiasm are much better than longer periods, which tend to become monotonous.

7. Emphasize correct breathing. Use the "self-command" drill after the fifth or sixth week to stimulate confidence in the use of the voice and to develop interest.

8. Require recruits to hold a given position in a drill only long enough to permit correction of faults, but avoid overstrain.

9. The movements should seldom be done in cadence but only by the executive command or by numbers—each position being held (in the early lessons) until the instructor sees that it is correct. This will enable faults in posture to be detected and immediate correction made. It is strongly recommended that occasionally when movements are being given by the numbers that the tempo be changed without warning in order to secure attention and develop smartness of response to unexpected changes.

10. The commands and positions called for should be strictly observed. Strive for the precision, uniformity and smartness required of the soldier in the manual of arms or the close order drill. The movements which are strictly corrective of poor posture have been placed early in each lesson. These corrective positions are to be emphasized and held to the command. They raise and expand the chest and bring about rapid improvement in posture.

METHOD OF EXTENDING ORGANIZATION FOR SETTING-UP DRILL

First Formation: Column of squads, to eight paces interval between organizations (Fig. 2).

FIG. 2.

FIG. 3.

At the command "Extend to the left" arms are brought to the position of thrust (Fig. 3).

At the command "March," class extends rapidly to the left to full arm's length distance (Fig. 4).

At the command "At ease" the left leg is carried to left side, hands clasped in rear of body. **Caution:** Head remains erect, body leaning slightly forward so as to carry the weight of the body on the toes. Chest remains arched. This position is to be assumed between exercises as a rest period (Fig. 5).

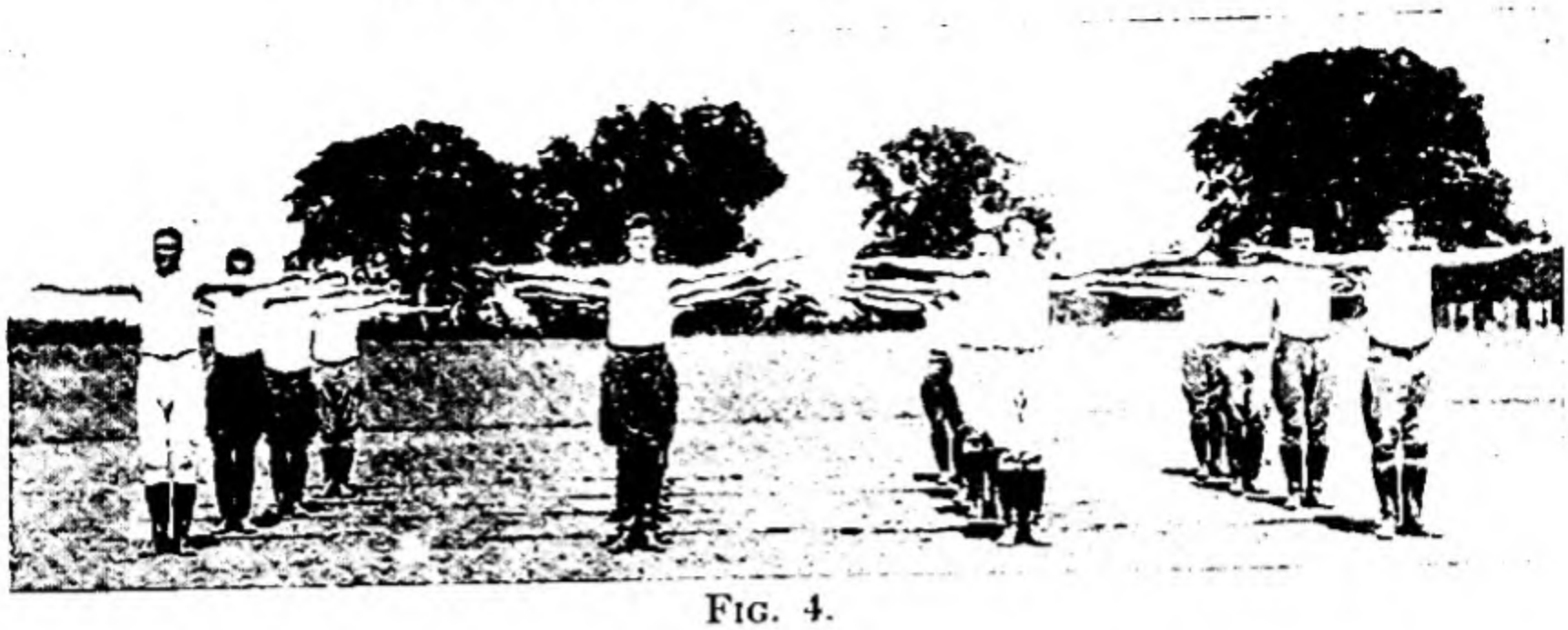


FIG. 4.

FIG. 5.

Correct Salute. Note all details of this pose (Fig. 6).

FIG. 6.

FIG. 7.

Correct Salute. Note all details of this pose (Fig. 7).

FIG. 8.

STARTING POSITIONS

Position of Attention. No. 1. The starting positions to be used at the opening of each period of disciplinary gymnastics. There are two kinds of commands—preparatory and executive. The **preparatory** command describes and specifies what is desired, and the **executive** command calls what has been described into action.

Disciplinary exercises—two minutes, including starting positions. They are composed of going from "at ease" or [illegible] to the position of attention and [illegible] facings. Where these are followed by a few snappy executions of the starting positions, the mind of the recruit is concentrated upon the work to follow.

Starting positions—one minute, going from one to another, with accuracy, snap, and speed (Fig. 8).

Arms Forward—Raise. **Caution:** Hands remain separated by the width of the chest (Fig. 9).

FIG. 9.

Arms sideward—place (Fig. 10).

Arms upward—place (Fig. 11).

Hands on shoulders—place (Fig. 12).

Hands on hips—place: This position should be done with the palm fitting comfortably over the pelvic bone at the side, and *not* with the thumbs almost together in back. The last position, in the recruit, tends to increase the hollow in the back and to force the stomach forward (Fig. 13).

FIG. 10.

FIG. 11.

FIG. 12.

FIG. 13.

To the thrust—raise (Fig. 14).

FIG. 14.

Arms down (Fig. 15).

FIG. 15.

LESSON NO. 1

(a) Starting Positions.

(b) Arms forward—raise. S.P.

1. Arms sideward—move.
2. Recover.

Arms to thrust—raise. S.P.

1. Arms forward—thrust.
2. Recover.

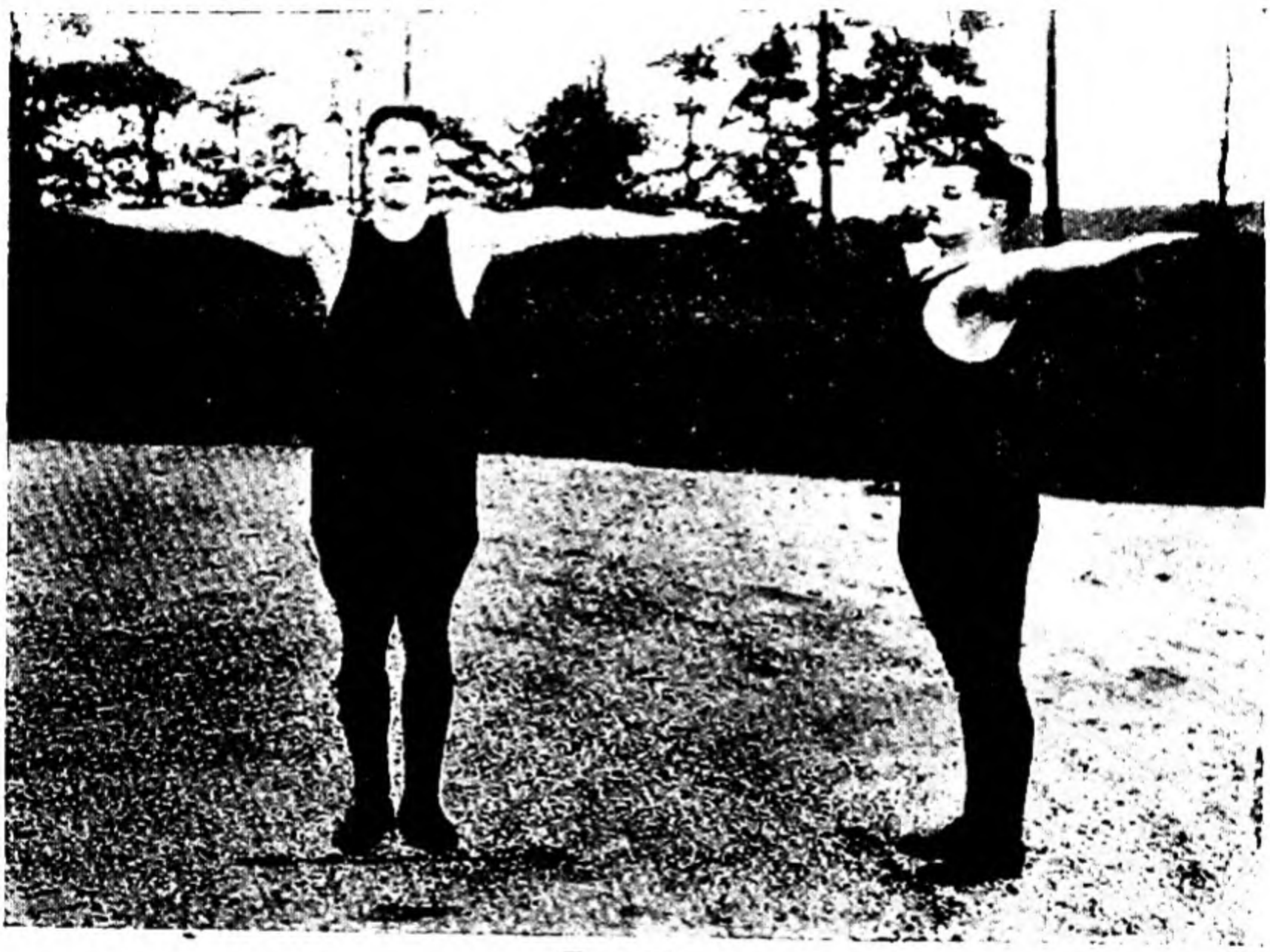


FIG. 16.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on hips—place. S.P.

1. Head to the right, protruding the jaw, raising chest—turn
2. R... ...mphasize count of "two."

Arms sideward, with straddle—place. S.P.

1. Trunk (sideward), hands on shoulders—bend.
2. Recover.

Alternate right and left.

(See Fig. 17.)

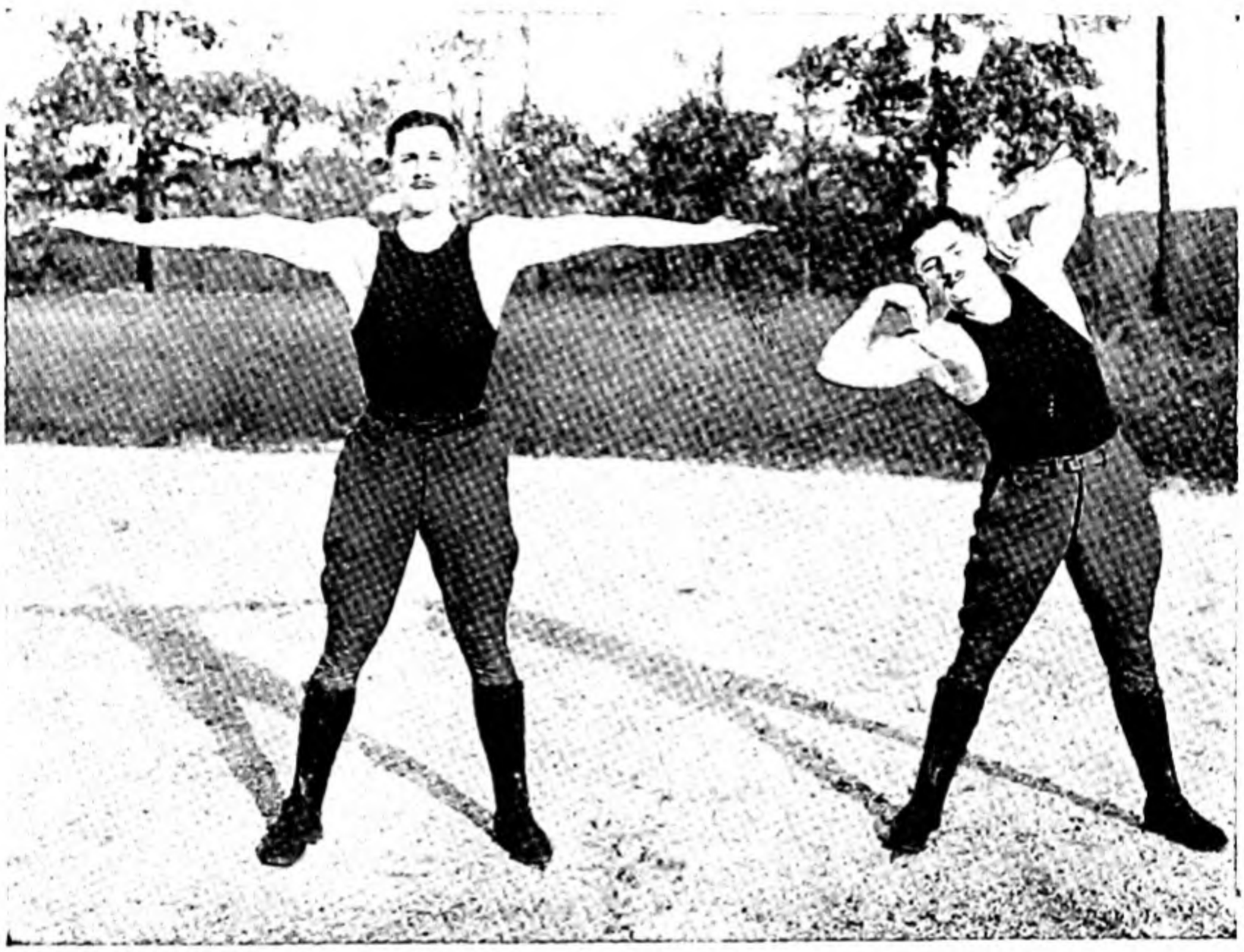


FIG. 17.

Hands on shoulders—place. S.P.

1. Half bend knees extending arms forward—bend.
2. Recover.

Arms to thrust—raise. S.P.

1. Trunk, quarter bend, with arms sideward—bend.
2. Recover.
3. Knees quarter bend with arms upward—bend.
4. Recover.

Deep breathing with heels and arms raising.

LESSON NO. 2

(a) Starting Positions.

(b) Arms to thrust—raise. S.P.

1. Arms forward—thrust.
2. Recover.
3. Arms upward—thrust.
4. Recover.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on hips—place. S.P.

1. Trunk to right—bend.
2. Recover.
3. Trunk to left—bend.
4. Recover.

Attention. S.P.

1. On heels—rise.
2. Recover.
3. On toes—rise.
4. Recover. 1 and 3 executed rapidly.

Arms sideward—place. S.P.

1. Trunk forward, with hands on shoulders—bend.
2. Recover.

(See Fig. 19.)

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover.

NOTE.—This is an exaggerated backward bending of the head. The head moves first followed by upper back. **Avoid increasing the bend in the small of the back.**

(See Fig. 18.)

FIG. 18.

FIG. 19.

Arms to thrust—raise. S.P.

1. Arms upward, knuckles out—thrust.
2. Arms down and backward with force—swing.
3. To the position of 1.
4. Recover.

Arms backward—cross. S.P.

1. Trunk forward (half bend)—bend.
2. Recover.
3. Knees half bend.
4. Recover. "Two" and "Four" executed rapidly.

Side straddle position—hop. S.P.

1. Arms forward—raise.
2. Arms sideward, bending both knees—swing.
3. To position of 1.
4. Recover.

Deep breathing with heels and arms raising.

LESSON NO. 3

(a) Starting Positions.

(b) Attention. S.P.

1. Arms forward—stretch.
2. Arms sideward—stretch.
3. Arms forward—stretch.
4. Recover.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on shoulders—place. S.P.

1. Head to the right, extending arms sideward palms up—twist.
2. Recover rapidly.
3. Head to the left, extending arms sideward palms up—twist.
4. Recover.

Hands on hips—place. S.P.

1. Trunk forward, hands on shoulders—bend.
2. Recover.
3. Trunk forward, arms sideward—bend.
4. Recover.

FIG. 20.

Hands on shoulders—place. S.P.

1. Right stride extending arms upward.
2. Recover.
3. Right stride extending arms forward.
4. Recover. (Alternate with left leg.)

Hands on hips—place. S.P.

1. Right knee upward, with arms sideward, palms up—place.
2. Recover.
3. Left knee upward, with arms sideward, palms up—place.
4. Recover.

(See Fig. 20.)

Hands on hips—place. S.P.

1. Extending right leg forward depressing toe, left knee—bend.
2. Recover.
3. Extending left leg forward, right knee—bend.
4. Recover.

Arms sideward—raise. S.P.

1. Palms up, fingers spread.
2. Turning palms down, fists—clench.
3. Return to position 1.
4. Recover.

Hands on hips—place. S.P.

1. Rising on toes extending arms upward—stretch.
2. Recover.

NOTE.—On count 1 use all force going upward, on count 2 recover lightly on heels.

Breathing exercises.

LESSON NO. 4

(a) Starting Positions.

(b) Attention. S.P.

1. Arms upward, palms to the front—swing.
2. Recover.

Hands on shoulders—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on hips—place. S.P.

1. Trunk forward, extending right leg to the rear—bend.
2. Recover rapidly.
3. Position of 1, extending left leg.
4. Recover.

FIG. 21.

Arms to thrust—raise. S.P.

1. Arms forward, raising right leg—thrust.
2. Recover.
3. To the position of 1, raising left leg.
4. Recover.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover.

(See note in lesson 2, and Fig. 18.)

Attention. S.P.

1. Arms upward, palms in—place.
2. Arms sideward—place.
3. To the position of 1.
4. Recover.

Squatting position—squat. S.P.

1. Right leg sideward, knee stiff, toes depressed—place.
2. Recover. (Alternate with left leg.)

Arms to thrust—raise. S.P.

1. Arms sideward, turning head to right—place.
2. Recover.
3. To the position of 1, turning head to left.
4. Recover.

Breathing exercises.

LESSON NO. 5

(a) Starting Positions.

(b) Arms sideward—raise. S.P.

1. Arms upward, rising on toes—raise.
2. Recover.

Arms sideward—place. S.P.

1. Trunk sideward with hands on shoulders—bend.
2. Recover. (Alternate right and left.)

Hands on hips—place. S.P.

1. Trunk forward—bend.
2. Recover.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Arms backward—cross. S.P.

1. Head to the right, forcing jaw outward—turn.
2. Recover rapidly. Alternate.

Arms to thrust—raise. S.P.

1. Right arm forward, left arm sideward—thrust.
2. Recover.
3. Alternate.
4. Recover.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Hands on hips—place. S.P.

1. Heels—raise.
2. Knees full bend—bend.
3. Position of 1.
4. Recover.

(See Fig. 21.)

Breathing exercises.

LESSON NO. 6

(a) Starting Positions.

(b) Arms to thrust—raise. S.P.

1. Arms upward, quarter bend knees—place.
2. Recover rapidly.
3. To the position of 1.
4. Recover rapidly.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Hands on hips—place. S.P.

1. Knees—half bend.
2. Right leg to the rear, toe touching ground, knee stiff—place.
3. Recover rapidly to position of 1.

Alternate.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

Sitting position—sit down. S.P. Arms backward cross. Trunk bending forward, keeping back straight.

1. Legs sideward—place.
2. Recover rapidly.

Sitting position—sit down. S. P.

NOTE: Position as above.

1. Right leg, toes depressed—raise slowly.
2. Recover. (Leg should be lowered slowly without striking the ground.)

Alternate.

Hands on hips—place. S.P.

1. Hop in place four counts.
2. To right—turn. Hop in place four counts.
3. To right—turn. Hop in place four counts.
4. To right—turn. Hop in place four counts. Front position.

NOTE.—Men count and continue the exercise.

Breathing exercises.

LESSON NO. 7

(a) Starting Positions.

(b) Hands on hips—place. S.P.

1. Head backward, extending arms downward, keep chest high—bend.
2. Recover.

Arms to thrust—raise. S.P.

1. Arms forward, extending right leg sideward, toes depressed—thrust.
2. Recover.
3. To the position of 1, extending left leg.
4. Recover.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Attention—S.P.

1. Jump to side, straddle and arms sideward—place.
2. Arms upward, raise and trunk forward—bend.
3. To position of 1.

Attention. S.P.

1. Front stride, arms forward—place.
2. Arms sideward—place.
3. To the position of 1.
4. Recover. (Alternate.)

Side straddle position—hop. S.P.

1. Arms forward—place.
2. Body to right, extending arms sideward—twist.
3. To the position of 1.
4. Recover. (Alternate.)

Attention. S.P.

To position leaning rest.

1. Squat with hands on ground.
2. Stretch legs backward feet together or straddle.
3. Recover. (Or dip 3 times—then recover.)

Increase number of dips each week.

(See Fig. 22.)

Breathing exercises.

FIG. 22.

LESSON NO. 8

(a) Starting Positions.

(b) Arms to thrust—raise. S.P.

1. Arms diagonally backward—thrust.
2. Arms to the upward position—forward—swing.
3. To the position of 1.
4. Recover rapidly.

Hands on shoulders—place. S.P.

1. On toes, extending arms sideward palms up—rise.
2. Recover.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Attention. S.P.

1. Right leg forward, arms forward—stretch.
2. Legs sideward, arms sideward—stretch.
3. Legs backward, arms upward—stretch.
4. Recover. (Same with left leg.)

Arms backward—cross. S.P.

1. On heels—rise. 1.
2. Half bend knees—bend.
3. To the position of 1.
4. Recover.

Leaning rest position—hop. S.P.

1. Right leg, point toes, knee stiff—raise.
2. Recover.
3. Same with left leg.
4. Recover.

Sitting Position—sit down. S.P.

NOTE: Legs straddled, hands on hips.

1. Right leg, extending right arm forward—raise.
2. Recover. (Alternate.)

Hands on hips—place. S.P.

1. Bend knees, extending arms sideward.
2. Straighten knees, extending arms upward.
3. To position of 1.
4. Recover.

Breathing exercises.

LESSON NO. 9

(a) Starting Positions.

(b) Arms sideward—raise. (Palms up.) S.P.

1. In two motions circumduct arms backward.

FIG. 23.

Attention—S.P.

1. Heels—with arms forward, raise.
2. Knees—with arms sideward, palms up, bend.
3. To position of 1.
4. Recover.

(See Fig. 23.)

Arms sideward—place. (Palms up.) S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on shoulders—place. S.P.

1. Trunk ·kward—bend.
2. Recover (See note in Lesson No. 2 and Fig. 18.)

Arms sideward—raise. S.P.

1. Arms upward, trunk to right—bend.
2. Recover. Alternate.

Arms to thrust—raise. S.P.

1. Right arm upward, left arm down—thrust. Alternate.

ttention—S.P.

1. Flex forearms horizontally.
2. Fling arms sideward.
3. Flex arms as in 1.
4. Recover rapidly.

Squatting position—squat. S.P.

1. Leaning rest position—hop.
2. Change to the right side leaning rest.
3. To the front leaning rest.
4. Squatting position.
5. Recover. Alternate.

Breathing exercises.

LESSON NO. 10

(a) Starting Positions.

(b) Arms forward—raise. S.P.

1. Rise on toes, arms sideward—place.
2. Recover.
3. Rise on heels, arms upward—place.
4. Recover.

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high.

(See Fig. 16.)

Hands on hips—place. S.P.

1. Right leg forward, pointing toes height of waist—place.
2. Right leg backward, knee stiff—place.
3. Right leg to the position of 1—place.
4. Recover. Alternate.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Attention—S.P.

1. Half bend knees.
2. Right foot forward, toes depressed—place.
3. Leg to right side—place.
4. Position of 1. (Knees bent.)
5. Recover. Alternate.

Arms upward—with straddle—place. S.P.

1. Trunk to right with arms sideward, palms up—turn.
2. To position of 1.
3. Same to left.
4. To S.P.
5. Recover.

(See Fig. 24.)

Leaning rest position—hop. S.P.

1. Right arm forward, left leg upward—raise.
2. Recover. Alternate.

Breathing exercises.

LESSON NO. 11

(a) Starting Positions.

(b) Attention—S.P.

1. Arms forward and upward, palms in—place.
2. Return to S.P.

FIG. 24.

Full bend knees, arms sideward—raise. S.P.

1. Rock on knees, circumducting arms backward. (Two motions.)

Arms sideward (palms up)—place. S.P.

1. Chest—raise. (Hold 5 seconds.)
2. Recover.

Repeat three times, lifting the chest high. (See Fig. 16.)

Arms sideward with straddle—place. S.P.

1. Trunk to right with left arm upward and right arm downward—bend.
2. To S.P.
3. Same to left—right arm upward and left arm downward.
4. To S.P.
5. Recover.

(See Fig. 25.)

Fig. 25.

Attention. S.P.

1. Right foot forward, arms forward—place.
2. Right knee, extending arms sideward, palms up—bend.
3. As in position 1.
4. Recover.

Hands on hips—place. S P

1. Trunk to right with ıns upward—bend.
2. Recover. Alternate.

Sitting position—sit down. S.P. (Legs together, hands on hips.)

1. Arms upward, palms in, legs to the straddle—place.
2. Recover.
3. Legs to the straddle, arms sideward, palms up—place.
4. Recover.

Hands on shoulders—place. S.P.

1. Trunk backward—bend.
2. Recover. (See note in Lesson No. 2 and Fig. 18.)

Breathing exercises.

LESSON NO. 12

(a) Starting Positions.

(b) Attention—S.P.

1. Arms forward, rising on toes—place.
2. Recover.
3. Arms sideward, rising on toes—place.
4. Recover.
5. Arms upward, rising on toes—place.
6. Recover.

Arms to thrust—raise. S.P.

1. Arms forward, half bend knees—thrust.
2. Recover.
3. Arms upward, rising on toes—stretch.
4. Recover.

Arms upward with straddle—place. S.P.

1. Trunk sideward—bend.
2. To S.P.
3. Same to left.
4. To S.P.
5. Recover.

(See Fig. 26.)

Arms to thrust—raise. S.P.

1. Side straddle position—hop, arms upward—place.
2. Arms downward between legs full trunk bending—swing.
3. To position of 1.
4. Recover.

Fig. 26.

Arms backward—cross. S.P.

1. Trunk to right, raising chest and inhaling—twist.
2. Recover.
3. To the left as in 1—twist.
4. Recover.

Sitting position—sit down. S.P.

NOTE: Hands placed in rear, fingers pointing backward, palms down.

1. Raise body from the ground to the back leaning rest position.
2. Recover.

(See Fig. 27.)

FIG. 27.

Arms upward—place. S.P.

1. Trunk—bend, describing full inward circle with arms.
2. Recover the position of 1.

Breathing exercises.

INDIVIDUAL CORRECTIVE GYMNASTICS

The recruit accepted by the Army surgeons may be regarded as on the whole physically normal. In spite of the physical examination, however, certain percentage of recruits will be found deficient in some respect or another, such as flat chest, hollow back, round shoulders, flat feet, etc. In the great majority of cases a well administered course of physical train-

ing, with due emphasis upon those movements that improve posture, will correct most of these deficiencies in a remarkably short time. For this reason it will not be necessary to prescribe special individual exercises for any of these conditions excepting for weak feet or those that may have broken down in service.

For these cases the following movements have proved most beneficial. They should be done without shoes or better still while the feet are bare.

A. 1. Position of attention. Toes together, move heels a little apart, rise on toes.

2. Lower weight slowly.

B. 1. Position of attention. Toes together, heels a little apart, rise on the outer borders of feet, knees straight.

2. Return slowly.

C. Walk on outer borders of the feet.

D. Stand with toes projecting over edge of step. Curl, extend, and spread the toes.

E. Flexion and extension of the foot.

F. Raise heels and walk on toes. Soldier should rise as high as possible on the balls of the feet with the toes pointed in.

G. Practice walking for short distances with toes pointed in and with most of the weight on the outer borders of the feet.

H. Soldier seated. Circling inward of the foot. Heels on the floor as a pivot. Move the feet outward—1; downward and together—2; and upward—3.

I. Soldier seated. Flexion and extension of the ankle.

The foregoing movements are not only valuable for the prevention of flat feet, but are also very useful in strengthening arches that tend to break down under service conditions.

CHAPTER III

mes Adapted for Use as a Part of the Formal Drill Period

GROUP GAMES AND MASS ATHLETICS

Group games and mass athletics are particularly valuable as a part of the military training program because they develop to a high degree mental and physical alertness. Many of them are adapted for use in the formal drill period in regular formation. They give variety and additional interest to the regular day's work.

Even in simple comp ..itions, the soldier is confronted by unexpected situations in the progress of the game. In his effort to adapt himself promptly and successfully and to do the thing which will be an effective response to the situation, he is receiving a training in discrimination and accuracy of action which tends to develop smartness, quickness of decision, and the ability to act effectively after making the decision. In other words, the rapidly changing conditions in the games serve to **give him orders** which are even more effective than the spoken order in stimulating a smart response. Moreover, experience in competitive games makes the soldier shifty, stimulates a lively determination, and gets him in the habit of exerting himself to the utmost when in action.

It was demonstrated during the war that nothing was so valuable as competitive games in keeping alive the interest of the men and in preventing discontent and homesickness during a long training period or after a protracted tour of duty in the front lines.

The games selected are those which are easily learned, which require the simplest equipment or none at all, and which have met the test of actual experience under service conditions. They require a simple form of organization and have been

selected because of their simplicity, popularity, and educational value, from among the hundreds that have been tried out in the Army.

These games are divided into three general classes:

1. Those that can be used without modification of the ordinary squad, platoon or company formation, as a part of the formal work during a drill period.

2. Those that are more adapted for use in the supervised athletic period; and

3. Stunts and informal contests that may be used by the soldiers during their leisure time.

It will be noted that all of the games listed in Class I can be used during the supervised athletic period. The games comprising the three classes follow:

CLASS I—GAMES ADAPTED FOR USE AS PART OF REGULAR DRILL PROGRAM

1. **Medicine Ball Relay.** EQUIPMENT NEEDED: One medicine ball for each team participating. (Any kind of ball or similar object can be used in place of the medicine balls.) FORMATION: Column of files about six feet apart, each made up of an equal number of men. Players in the stride stand position with the ball on the line in front of the first contestant. The man at the head of each column should be indicated in some well-defined way such as wearing no O. D. shirt. At the start the ball is rolled back (or object passed) between the legs of the contestants in the column until it reaches the back of the

FIG. 28.

column. It is picked up by the end man who carries it forward on (or right) side of his column to the distance line, which h ist touch. He then returns to the front of his column where he faces about and starts the ball (or passes the object) back between his own legs toward back of the column where it is picked p by the end man who repeats the performance of the preceding end man. After every man has carried the ball forward the la t man finishes the race when he crosses the distance line (Fig.).

2. Sprint Relay. No Equipment Needed, Formation: Column of files. The first man of each column runs to (or around) a given point and returns to starting line, where he hands baton (belt, handkerchief, stick, or any other small object) to the second man of his column. The second man repeats the run and brings baton back to third man. Continue in like manner until all men have run. Men fall in line in order at the foot of their respective columns immediately after finishing their runs. Men must receive baton at, or back of, starting line. The last man of each column should be indicated in some well-defined way such as wearing no O. D. shirt.

3. Jump Belt Relay. Equipment Needed: One stout stick about four feet long for each team, or two belts joined together. Formation: Column of files about six feet apart. Each column should be made up of an equal number of men. The No. 1 man of each column runs forward with belt and touches it to a given point, returns and hands one end to No. 2, who has stepped off to one side of the line. These two men, one each side of the line, then carry the belt, close to the ground, while they run back toward the end of the line. The men in the line jump over the belt as it comes to them. After the last man in the line has jumped over the belt, No. 1 lets go the belt and takes his place at the end of the line. No. 2 carries the belt forward to the given point, returns to the front of the line and carries the belt back with No. 3 holding the other end. This is continued until the last man has tagged the forward point.

4. Marching Tag. No Equipment Needed: Two base lines 50 feet apart. The group is broken up into two units.

These units form in company front behind their base line facing each other. Unit No. 1 marches forward in this formation and continues so to march until a whistle is blown. The whistle is the signal for No. 1 to break ranks and run back to their base line before the men forming unit No. 2 can tag them. No. 2 men must stand at attention until the whistle is blown. Every man tagged before crossing his base line must line up with No. 2. Unit No. 2 then marches forward until a whistle is blown, and is chased back behind its base line by group No. 1. The line having the largest number of players after an equal number of trials wins the game.

NOTE.—The officer in charge should judge distances carefully, and should gradually permit the marching line to approach closer and closer to the tagging line before blowing the whistle. The marching distances should be as nearly as possible the same for both teams.

NOTE.—A good modification of the game is to have the tagging line stand with their backs toward the marching line, thereby necessitating a quick turn around.

5. Human Tug of War. NO EQUIPMENT NEEDED, FORMATION: Column of files facing each other. Players stand close together, arms placed about waist of man in front (grasping left wrist with right hand is the strongest grip). Leading man of each team grasps opponent about neck and shoulders. Team breaking first or having one or more men pulled over the line separating the two teams after thirty seconds, is the loser.

6. Company Rescue Race. NO EQUIPMENT NEEDED: By two or more units (platoons or companies). The front rank of each company is on the ground 25 yards away. On signal, the rear rank runs up and carries the front rank to the rear rank's starting mark. Event can also be run against time.

7. Regulation Equipment Race. EQUIPMENT NEEDED: Rifle, bayonet, and scabbard. Field service uniform: blouse, shirt, breeches, leggins, shoes, campaign hat, and belt. Shoes are placed on ground at scratch, leggins on 25-yard mark, blouse and hat at 50-yard mark, rifle bolt out and firing pin out at 100-yard mark, other accoutrements may be added. Con-

testants lie with their backs flat on the ground with their heads just back of their shoes and feet pointing away from the starting line. At starting signal each man will put on his shoes, and run to the 25-yard mark, put on his leggins, continue on stopping at each point and putting on the equipment at that point. After assembling bolt and placing it in the rifle, each man will run back to the starting line, and stand at attention. Contestants will not leave any of the points until the equipment at that point is properly adjusted.

8. Obstacle Race. EQUIPMENT NEEDED: 100-yard course arranged as indicated below. Sprint 10 yards to a three-foot hurdle; sprint 15 yards to a smooth wire entanglement 10 feet wide (arms must be folded while crossing entanglement; hands may not be used); sprint 15 yards to a ramp 5 feet high immediately joining which is a trench 10 feet wide and 3 feet deep; sprint 15 yards to a plank bridge 1 foot wide (over a shallow trench 20 feet wide); sprint 15 yards to an 8-foot smooth-faced fence; sprint to finish. (See Figs. 119, 120, 121.)

NOTE.—Obstacle race should be run in three ways according to stage of training, for instance: (1) without equipment and rifle, (2) with rifle, (3) with light marching equipment and rifle.

NOTE.—Course can be arranged so that this race may be modified in various ways so that natural obstacles can be used.

9. Over the Top. NO EQUIPMENT NEEDED, FORMATION: Front rank facing rear rank. A separating line should be drawn between the two ranks. A parallel line should be drawn ten yards back of either side of the separating line. Each man of rear rank must keep one foot in contact with separating line until starting signal is given. OBJECT OF GAME: Front rank fight their way back to the line behind the rear rank. The rear rank acts as defender. As soon as any man succeeds in crossing the rear line he has gone "over the top" and can no longer be molested. (Grasping the clothing, kicking, and securing strangle and harming holds not allowed.) At signal, game stops and the number of front rank men who have succeeded in getting back of the rear rank's goal line or "over the top" are counted. Continue game with rear rank as offensive and

front rank as defensive unit. Team getting largest number "over the top" in a given number of periods of equal duration wins. Time of each period should be about one minute.

The foregoing games are only a few that are adapted for use in the regular drill program. Games No. 10 to 93 are described in Chapter XI, pages 149 to 175. Consult pages 149 and 150 for suggestions regarding the proper administration of athletic games.

CHAPTER IV

Quickening and Skirmishing Exercises

To train men to move forward in stooped, bending or crawling positions, and to accustom the soldier to certain conditions and positions necessary in trench warfare and skirmishing, exercises bringing into play muscles not generally used have been adopted. These exercises were used in the French army by trainers to prepare athletes for special events, and have been adapted to the training of the soldier in moving without fatigue in a bending, stooping or crawling position. These movements are known as skirmishing exercises.

Another group includes the quickening movements successfully employed in bayonet schools. These drills place the emphasis upon concentration of attention, quick thinking and instant execution. Quickening exercises should be simple, of brief duration, and the element of competition should be introduced.

QUICKENING EXERCISES—FORMATION FOR INSTRUCTION

The unit should be formed in a large circle around the officer in charge, not more than 32 men in a circle. (A circle of 32 men six feet apart radiates about 10 yards from the officer.)

The unit being in column of squads: At the command—"Form a circle—MARCH" the front rank faces right, and in double time proceeds down the right flank of the unit, each rank facing right and falling in behind as the running column passes. As the head of the column passes the end of the unit it bears to the right, running in a large circle with intervals of six feet distance between the men.

At the finish of the exercises, to get the men back to the original formation, give the command "TO YOUR PLACES—MOVE." As in the quickening exercises, the men return, running at full speed to the original formation.

SUGGESTIONS

1. The men follow one another six feet apart in a large circle around the officer controlling in center.

2. The word "GO" is used as the command of execution, after the name of the exercise is given. The command "RELAX" means to discontinue the special exercise and simply walk in an easy position, not necessarily keeping step.

FIG. 29.

3. Avoid fatigue by giving no more than ten seconds at a time to an exercise, and by selecting in rotation one exercise from the standing group, one from the squatting group, and one from the bending group: giving a "RELAX" period of about twenty seconds between each two exercises.

4. Put snap and speed into the commands and exercises. Finish with a run over nearby obstacles, following the leader, in and over trenches, over fences, climbing trees, etc.

EXERCISES

1. INDIAN WALK—Walk forward with trunk bent forward, knees slightly bent, trailing tips of fingers on the ground (Fig. 29).

2. Toe Walk—Knees stiff, walk on toes with short, rapid steps. Walk forward and backward.

3. Crawl—Forearms on ground, legs straddle behind; crawl forward, resting on forearms and inside of feet and knees. As right forearm goes forward, the left knee is brought up sideways. Keep hips near the ground.

4. All Fours—Hands and feet on ground, run forward, sideward or backward.

Fig. 30.

5. Crouch Run—Run with knees bent and back stooped forward, as if in a shallow trench, arms hanging loosely.

6. Frog Jump—On hands and feet imitate a frog jumping but land on feet with legs apart.

7. Hand Kick—From hands on hips position raise right arm forward, shoulder high, kick hand with right foot; repeat with left, walking forward.

8. Squat Jumps—Hands on hips. Small jumps forward in squat position.

9. Flex Step—From hands-on-hips position raise knee waist high, straighten out knee, pointing toe to the front; step forward, touching toe to ground before heel; done very slowly.

10. Heel Touch Walk—Step forward, bend body back-

ward, touch right heel with right hand; repeat same to left; continue.

11. Straddle Leaps—Leap forward from side to side as if clearing muddy spots in center.

12. Duck Waddle—Squat position, arms to thrust, trunk erect. Walk forward (Plate 30).

Fig. 31.

13. Toe Touch Walk—From hands-on-hips position walk forward right hand touching right foot, and left hand touching left foot at each step, keeping knees stiff as possible.

14. Bear Gallop—Similar to "Frog Jump," but land with feet between hands.

15. Right (Left) Foot Hop—Hop forward on one foot with other foot raised to the rear. Two, four or eight times each foot.

16. Forward Jumps—Jump high from both feet, swinging arms forward, upward or sideward. On landing, arms come down.

17. Crane Walk—Trunk bent forward, hands on hips, walk forward, raising knees to chest with each step (Fig. 31).

18. Feet Spread and Close—Jump forward, alternately spreading and bringing feet together. Hands clap overhead when feet are spread and clap sides when feet are together.

19. Hopping Movement—From the position of hands on hips hop on toes turning to right on each fourth count.

20. Goose Step—From the position of hands on hips swing the left leg, knee stiff, toe pointed out, waist high. On the second count the leg is lowered, the toes touching the ground before the heel, walking forward. Repeat with the right leg and continue.

21. Automaton Walk—Walk forward swinging the extended left leg knee high. At the same time swing the right arm, elbow straight, shoulder high. In the same manner walk forward swinging the right leg and left arm.

22. Bucking Broncho—From all fours imitate a bucking broncho, jumping from feet to hands alternately.

23. Bear Walk—Place hands on ground, drawing the legs up, knees stiff, as far as possible under the body. Walk forward moving the left foot and left hand in cadence and the right foot and right hand.

24. Buttock Kick—From the position of hands on hips, leap into the air and strike buttocks with both heels. Alight on toes.

25. Simulated Jump—Raise arms forward, rising on toes, swing arms downward, full bend knees, swing arms forward rising on toes to the erect position, swing arms downward to the position of attention.

26. Quick Step—Walk in fast cadence, 140 steps per minute, taking about a 20-inch step.

27. Flexion Step—Walk forward with about a 36-inch step. Lean body forward, keep foot close to ground, bending knee of leading leg and straightening knee of rear leg.

28. Flexion Step With Pause—Same as in Flexion Step (27) except after taking step forward, pause, bend and touch ground with the knee and inside of heel of rear leg.

QUICKENING EXERCISES

1. "Out of My Sight" means that the men drop their rifles, boxing gloves or whatever they have in their hands and dash for the nearest tree or hole where they can hide. Any man in sight is singled out by the officer in charge and made to feel conspicuous. The same command prefixed by "With Your Rifles" means that pieces are carried by the men as they hide.

2. "To Your Places," emphasized by "Don't be last," brings the men back at full speed to resume their interrupted work.

3. "Six Feet Off the Ground" signifies vigorous climbing up the nearest tree or fence.

4. "Flat on the Ground" or "On All Fours" means a sudden dropping to the ground and absolute silence in the position described by the command.

5. "Opponents Rifle," given during bayonet drill causes every man to drop his own rifle, rush across and pick up that of his opponent, coming to the "On guard" position at once.

6. "In the Trench" is self-explanatory, meaning that the men are to drop into the nearest trench.

7. "Out of the Trench" is the signal to climb out of the trench.

8. "Feet Off the Ground" can be performed by standing on some object or hanging, but is more readily performed by lying on back.

9. "Touch Iron" starts the men looking for some piece of metal to touch.

Occasionally the officer in charge should give a new command before one recently given has been completed. For instance, to call "Flat on Ground" when men are running for the timber to get out of sight, calls for quick thinking.

10. Follow the Leader—Another effective method for conducting quickening exercises is known as "Follow the Leader." This work is carried on as follows: With the unit in open formation, the officer in charge calls "Follow me," and

then proceeds to move arms, legs and body to various positions. Any of the fundamental physical drill positions may be used. While it is possible to use body and leg movements, the most satisfactory are those in which the arms alone take part. The officer in charge should choose his movements out of consideration for the expertness of the unit. There should be pauses over varying lengths of time at each position to allow the tardy members of the unit to get to a new position. All movements should be made with the utmost speed and snap.

11. Command Drill—Another method that is tremendously effective in neuromuscular development is that known as the "Command Drill." This drill is known under several other titles, and is carried on under varying conditions, being popular with athletic coaches.

In this drill the officer in charge calls in rapid succession the position he wants the group to assume. For this work the group may be arranged in any open order formation that is commonly used. The members of the group should move as precipitously as possible from one position to another in the shortest and quickest way. The officer in charge should not hesitate to call down the laggards and lazy members of the unit, for the value of the work lies primarily in the snap the group develops.

The common positions or movements used in this drill are:

a. Sit	Sit on ground.
b. Kneel	Kneel on ground.
c. Belly	Lie on ground, face down.
d. Back	Lie on ground, face up.
e. Squat	Squat.
f. Roll right	Lying on back or belly, make complete roll to right.
g. Roll left	Opposite of roll right.
h. Roll front	Do forward roll.
i. One foot	Stand on one foot.
j. Head	Stand on head.
k. Stand	Stand on both feet.

The above nomenclature is so self-explanatory that it is not necessary to further elaborate the same with more detailed descriptive matter. After one trial, the men very rapidly get the idea.

Other exercises may be devised by the ingenious officer.

12. Crows and Cranes—Of the various quickening drills in use, that known as "Crows and Cranes" is perhaps the most popular.

The method for carrying on this work is to divide the unit into two groups, one known as "Crows" and the other as "Cranes." The officer in charge instructs the unit to do a specific thing, and then indicates the group that is to carry out the command—either "Crows" or "Cranes." This work is made more effective by rolling the "r" in giving the command of execution, and then finally snapping out the end of the word. For instance: "C-r-r-r-r-anes," "C-r-r-r-r-ows." Only the part of the unit designated executes the movement; the balance should remain at attention. Example, "Forward Roll, C-r-r-r-r-ows." Those who respond to the command wrongly should get back to their proper position as rapidly as possible.

The common positions and movements used in this drill are:

a. Sit	Sit on ground.
b. Stand	Stand up.
c. Turn right	Jump in air, make one full turn right.
d. Turn left	Opposite to turn right.
e. Mount	Climb on hips of the other group.
f. Dismount	Drop off hips of other group.
g. Forward fall	Fall forward.
h. Jump forward	Jump to front.
i. Touch toes	Jump off ground and touch toes.
j. Touch heels	Jump off ground and touch heels.
k. Run	The group called runs twenty-five yards, and others attempt to catch them.

This method may also be varied by giving the command odd and even numbers "Do this or that," *i.e.*, "Odd numbers—Squat," "Even numbers—Out of my sight."

13. O'Grady—From the formation of column of squads the officer in charge gives certain movements in close order drill prefixing the words "O'Grady says," *i.e.*, "O'Grady says—Forward March." From time to time he will attempt to confuse the unit by omitting the words "O'Grady says." Any man who executes a command incorrectly given is made to run the gauntlet or double time a short distance in front of the unit.

14. False Lead Method—Another method, somewhat a combination of the signal and command system, is that which has been called the "False Lead." In this system the officer in charge mixes correct commands with the incorrect commands or signals, the group being instructed to follow only those commands that are correct. For instance, the group may be standing with their feet apart when the officer in charge commands "Feet apart. Jump." A large proportion of the group will make the mistake of jumping their feet together. Of course, they should make every effort to get back to their proper position at once. Or the officer in charge might jump his feet together, without giving the command for the same. A large portion of the group will follow his example. They are wrong, of course.

The idea of this drill is to develop mental alertness and discrimination, so that the men will gain steadiness and the ability to act correctly in rapidly changing situations. The officer in charge possessed of originality will think of many tricks that will add to the usefulness of this drill.

CHAPTER V

Personal Contact Drills

Experience in wrestling and hand-to-hand fighting has a double value in military training. In the first place, this training gives the recruit practice in personal combat, as a result of which he learns how to handle his opponent and how to apply his own strength to the best advantage. He learns to think quickly and to become alert and skilful in taking advantage of openings. He gains confidence in himself and feels that he is capable of making a good showing under any conditions. This confidence in his own powers tends to make the recruit more determined and aggressive in any form of combat, thus improving his morale and his value as a fighting man. Further, a well grounded knowledge of a few selected hand-to-hand fighting holds and disarming methods is of great value in patrol duty, trench raids, or whenever in any emergency the soldier finds himself unarmed and confronted by an armed opponent.

Nothing is so important as confidence and determination in fighting with or without weapons, and a very slight advantage in skill or quickness gives the victory. The value of the mental preparedness and poise that arrives from repeated experience in personal contests cannot be overestimated.

EXERCISES PREPARATORY FOR HAND-TO-HAND FIGHTING

The following exercises will be found useful as a means of giving recruits experience in personal contests which will develop strength, skill and speed in working with an opponent.

It is essential that these exercises shall be executed with snap and accuracy.

The exercises are conducted with the unit in the usual formation; that is, platoon or company front, the front rank having about-faced. All these exercises should be executed at command.

In personal contact drills the command comes from the officer in charge, but the opponent strives to prevent each individual from gaining the purpose of the hold after it has been taken following the command; consequently, the soldier is taught to carry out orders in the face of opposition. This develops within him the feeling of conquest. Further, it develops aggressiveness and an ability to meet opposition successfully. All of the following suggested drills should be carried out in formation — the platoon is the best unit.

FIG. 32.

Class Formation: Men fall in in column of squads, execute right face, then first and third ranks execute about face. The men on defense will not use their hands but will resist by bracing themselves, feet well spread. Those on offense will place their hands as directed in the following commands. The officer in charge will use a whistle to start and stop the different events.

1. Hand Tug of War: Men face each other with left (or right) foot advanced. Grasp right (left or both) hands and at the command each man attempts to pull his opponent across the line midway between the two ranks (Fig. 32).

2. Neck Tug of War: Men interlace fingers behind opponent's neck. On command each man attempts to pull his opponent across a line ten feet back of the starting line (Fig. 33).

3. Squatting Tug: Contestants sit on the ground facing each other, legs extended, soles of the feet touching. Opponents grasp hands or a short pole about three feet long. Pole is grasped by each man with the right hand at one end and the left hand inside of and close to opponent's right hand at the

other end. The object is to pull the opponent from his position on the ground either to his feet or to the opposite side of a line midway between the contestants (Fig. 34).

4. One-Hand Push: Opponents stand facing one another, right (left) foot forward. At the command, right (left) hand is placed on opponent's chest. The object is to push opponent over a line five feet back of the starting position. bout (Fig. 35).

FIG. 33.

Side-stepping results in loss of the

5. Shoulder and Arm Push: Place right hand on opponent's left shoulder. Grasp opponent's right upper arm with

FIG. 34.

FIG. 35.

FIG. 36.

left hand. Feet should be well spread, backs arched, and body bent forward. The object is to push opponent backwards from starting position (Fig 36).

6. Sitting Toe Wrestle: Opponents sit on the ground toe to toe, with a stick under knees. Arms under the stick and hands locked in front of knees. Ob-

ject is to get toes under opponent's feet, and so tip him over backwards (Figs. 37 and 38).

7. **Hand Wrestle:** Men advance right (left) foot so that the outer margins of the feet touch one another. Grasp right (left)

FIG. 37.

FIG. 38.

hands, holding hands over line midway between opponents until command is given. The object is to pull or push an opponent off his balance so that he moves one or both feet or touches the ground with some part of his body (Figs. 39 and 40).

8. Harlequin Wrestling: Stand on one foot, holding right (left) hands. Object is to overbalance opponent or to force

Fig. 39.

Fig. 40.

him to put upper foot down. Bucking with shoulder is not permitted. Game may be modified by requiring contestants to hold the upper foot with the free hand.

Fig. 41.

Note.—A popular modification of the foregoing is known as **Rooster Fight.** Players hold upraised foot with both hands. The object is to upset the players of the opposing team or to cause them to let go of their feet. Player knocked to the ground or forced to release upheld foot must drop out. Opponents are bowled over indiscriminately. Team bowling over largest number of opponents wins (Fig. 41).

Fig. 42.

Fig. 43.

9. **Cumberland Wrestling:** Opponents stand chest to chest, one arm over shoulder and other around the waist, locking hands behind the back. At signal, attempt to lift opponent

FIG. 44.

clear of the ground. Holds may be changed after the bout is started (Figs. 42 and 43).

10. **Collar and Elbow Wrestling:** Place right (left) hand back of opponent's neck. Grasp opponent's right (left) elbow

with right (or left) hand. Tripping is allowed. Object is to make opponent touch the ground with any part of the body other than the feet (Fig. 44).

11. **Mounted Boxing:** One man sits astride another's hips. Rider wears boxing gloves. At the signal the riders box while the horses manœuver. Bouts last one minute. Decision is given at the end of this time. Rider falling off his horse loses bout. Horse and rider falling lose bout. If both riders fall at once, the one striking ground first loses.

FIG. 45.

12. **Pig-a-Back Wrestling:** One man sits astride another's hips. Object is for one rider to dislodge his opponent rider. Any tactics except striking are allowed. Both horse and rider falling counts as a lost bout. If both riders fall at the same time the one striking the ground first loses.

13. **Cane Wrestle:** Cane should be about one inch in diameter and about three feet long. Each man grasps cane with the right hand, knuckles up, at one end and with the left hand, knuckles down, inside of and close to the opponent's right hand at the other end of the stick. The object is to wrest the cane

from the opponent. Loss of grip with either hand loses the bout (Fig. 45).

14. Indian Wrestling: Opponents lie on the ground facing up, right shoulders in close contact and right elbows closely locked. The right leg is then swung upward a given number of

Fig. 46.

preliminary swings, and at the signal GO , locked behind the opponent's right leg. The object is to roll the opponent over by forcing his leg down.

Note.—This may be used in the same manner on the opposite side with the left legs (Fig. 46).

CHAPTER VI

Line Wrestling

1. General Suggestions: Keep muscles that are not actually in use relaxed as much as possible, particularly when falling.

2. Use your brains as well as your muscles. A real wrestler, like a star football player or fighter, is one who can make his muscles respond effectively to accomplish the end desired.

3. If opponent secures a good hold, do not resist continuously—be passive, and then make sudden, concentrated efforts.

4. When facing an opponent, always try to keep your arms inside of his arms.

5. Don't waste your strength on foolish and impossible grips.

6. Keep moving all the time and cover up your method of attack.

Wrestler's Hand Grip: To learn the wrestler's grip one should form the habit of always holding the right hand palm down with the fingers partially flexed, the left hand palm up with fingers partially flexed. By forming this habit the hands naturally slip into the desired hold.

To take the wrestler's grip, the fingers of the right hand should grasp the fingers of the left hand, as illustrated. The thumb of the left hand is slipped between the little and ring fingers of the right hand. The thumb of the right hand is curled inside the index finger of the right hand and the little finger of the left hand (see Fig. 47).

When the wrestler's grip is properly taken, it leaves no finger ends which can be grasped and bent back in an endeavor to open the hold.

1. **Referee's Hold:** Each man places his left hand over his opponent's right shoulder and on the back of his neck. With the right hand grasp opponent's left elbow—both men assuming

the same position. Both feet should be kept separated and well back out of reach. All joints and muscles are flexed.

NOTE.—From this position many holds may be obtained

FIG. 47.

FIG. 48.

and by pulling and pushing forward or backward, or from side to side, an opening may be made for some good hold (Fig. 48).

2. Front Waist Hold: Slip both arms about opponent's waist, locking hands at back. Drop shoulders and chin to

opponent's chest on right or left side. Draw in with both arms at waist and push forward with chin and shoulders, bending opponent back to ground (Fig. 49B).

A B C

FIG. 49.

A B C D

FIG. 50.

Defense for Front Waist Hold: To prevent a man from encircling your body with his arms, always keep your arms on the inside of his, with the elbows bent (Fig 49A). In case he succeeds in embracing you, move your feet well to the rear,

lean your chin against his body and place your arms around his arms above his elbows (Fig. 49C), and in a short time he will be forced to relax his grip.

3. To Get Behind Opponent: If opponent has referee's

FIG. 51.

hold, place your right hand under his left elbow and raise his left arm in the air (Fig. 50A), at the same time step forward and place your foot outside of opponent's left foot and your ;ft hand in his crotch (Fig. 50B), and pivot to rear by duck- ,g under his raised left arm (Fig. 50C). Immediately raise

head, keeping it in contact with back of opponent's shoulder. This prevents him from getting a head hold by twisting his

Fig. 52.

shoulders and dropping his arm around your head. At the same time draw opponent to you with your left hand and slip right arm around his waist (Fig. 50D).

4. To Get Behind an Opponent: This may be done on either left or right side. Grasp opponent's left wrist with your right hand. Pull his hand across in front of your body to the left. At the same time, grasp his left arm on the inner side with your left hand well up to the shoulder. Your left hand should continue the motion started by your right hand, twisting your opponent in front of you. The right arm should slip about opponent's waist as you step behind him with your right foot.

Block: As opponent grasps your wrist and starts to swing

FIG. 53.

it across his body, straighten your arm out so that he cannot swing it in front of his body (Figs. 51 and 52).

5. Attack from Rear: With waist hold lift opponent from the ground and quickly throw him to right or left, at the same time striking against his left (or right) knee with your left (or right) knee, thus knocking his feet from under him (Fig. 53).

Block: As your opponent lifts you from the ground, lock his leg or legs by placing your toe (or toes) behind his corresponding knee (or knees). While this lock is held it is impossible for an opponent to throw you to the ground (Fig. 54).

6. Hand Trip from Behind: When behind an opponent place the palm of your left hand in the middle of his back, at the same time grasping his right ankle with your right hand.

Push him forward with your left hand and lift his right leg from the ground with your right hand (Fig. 55).

7. **Tackling:** If opponent has both feet close together, drop quickly, grasp him with both arms about the knees. Draw

Fig. 54.

Fig. 55.

his feet toward you and push forward with your shoulders slightly above the knees, thus throwing him backwards to the ground.

Block: As opponent comes forward with head low, place both hands on his head or neck. Force his head toward the

FIG. 56.

ground and pull him forward on his face, at the same time dropping to your knee (Fig. 56).

8. Near Leg and Under Arm: Grasp opponent's right wrist with your left hand, if he has right leg and right arm extended, step in with your head under outstretched arms and with leg hold lift up on his right leg with your right hand, at the same time pushing opponent over on his back while retaining wrist lock. The same method may be employed if he has left hand and left leg extended, in which case you will use your right hand to grasp his left wrist and your left hand and arm for a hold on his left leg (Fig. 57).

9. Near Leg and Back Heel: In case the opponent has either leg advanced, for example, the right, step in quickly and place your left foot inside of his right foot. Grasp his right thigh with both arms and kick his left foot from under him by swinging your right leg in between his legs and then back against his left ankle, at the same time raising his right thigh. When opponent falls, go with him if necessary but do not drop your right knee on his stomach or privates (Fig. 58).

FIG. 57.

10. Arm Lock: Either arm extended. Grasp his wrist with your opposite hand; namely, his right wrist with your left

hand. Step in quickly and in this case pivot on your left toe bringing your back toward opponent, and passing your right arm over his right arm close to his shoulder. Throw your

Fig. 58.

weight on his right arm, at the same time rotating your shoulders from right to left and placing your right foot behind his right leg. This will throw him across your right leg to the ground (Fig. 59).

Block: Take waist hold and sit back before opponent twists you off your balance.

11. **Cross Buttock:** This may be taken with either right or left arm. Grasp opponent's right elbow with your left hand. Slip right arm around his neck. At the same time turn on the ball of the left foot, stepping across with the right foot so that your feet will be approximately in front of his feet, thus bringing your right hip against his right hip. Pull down sharply with the

Fig. 59.

right arm. At the same time rotate the shoulder from right to left and twist your opponent over your right extended hip as a pivot. This will throw your opponent on the ground, bringing you on top (Fig. 60).

Block: As opponent starts to rotate on ball of left foot and slip right arm about your neck, place one or both hands against his right hip, holding him away from your body (Fig. 61).

12. Flying Mare: This may be taken on either side. If opponent's right arm is extended in front of him, grasp his

FIG. 60.

FIG. 61.

right wrist with your left hand. Place your right hand under his right armpit, palm up. At the same time step in and pivot on the left toe, bringing your opponent's right arm over your right shoulder, your back to his chest. Drop to the right knee and throw him over your shoulder by pulling down on his right arm and bending your right shoulder towards the ground. **Caution:** Be careful to keep palm of his right hand down; otherwise you will be likely to break his arm (Fig. 62).

13. Head and Chancery Hold: This hold may be obtained if the opponent is facing you with his head low—frequently from the referee's hold, or even when your opponent is behind you as when his head slips under your arm. It may be executed

with either hand. When opponent is facing you with his head low, pull him forward so that his head slips under your right armpit. Carry your forearm around his chin. Grasp your

FIG. 62.

right hand with your left hand. Exert a twisting pressure by bearing down with the right shoulder and raising with your left hand. During this hold your feet should be well apart and braced to the rear so that your weight will fall forward on top of opponent (Fig. 63).

NOTE: This hold may be modified by placing the left hand (palm down) on opponent's right shoulder and your right hand on top of your left wrist. Under these conditions, pressure should be exerted in the same way. This hold will throw a man to the ground on his back, bringing you on top of him.

FIG. 63.

14. Standing Trip: Grasp opponent by each arm close to the shoulder. Pull him slightly forward so that his weight is on

FIG. 64.

one foot. At this moment strike him sharply on the outside of the leg bearing his weight with your opposite foot and throw him to the side on which his weight is resting (Fig. 64).

CHAPTER VII

Hand-to-Hand Fighting, Including Disarming Methods

Emphasis should be placed upon the fact that hand-to-hand fighting is to be regarded as an **emergency measure** and that it is to be resorted to only when ordinary weapons of offense and defense are not available. A soldier should always depend upon his rifle, bayonet or grenade as his best means of offense and defense. This idea should be thoroughly drilled into the men.

The holds that are described have been selected from a very large number of hand-to-hand combinations, because experience has shown that they are best adapted to secure effective results when used by men in full equipment upon opponents equipped with helmet, gas mask, pack, etc. Many holds that are effective in the absence of equipment and with only one opponent have been discarded as useless under service conditions when the men are handicapped by full equipment and by rough, muddy ground.

The spirit of hand-to-hand fighting is that of grim, watchful determination. The men must be trained to **keep on their feet** and to **avoid going to the ground** with their opponents. They should be taught to use the **kick**, the **knee**, and the **elbow** whenever possible and to cultivate speed and accuracy in taking holds. Aggressiveness and determination in making attack are invaluable as a means of putting and keeping the opponent on the defense.

Principles of sportsmanship and consideration for your opponent have no place in the practical application of this work. In a fight with a bigger, stronger man avoid aimless struggle but work deliberately to disable or disconcert him by butting with head, kicking shins, grabbing gas mask, etc., so as to make an opening for a disabling hold or blow.

It is to be noted that the knee, crotch, neck, and head are vulnerable parts and are the object of attack, in any one of

Fig. 65.

the ways prescribed below. It should be remembered that tearing off an opponent's gas mask is a valuable offense when gas is present, and is always useful as a means of disconcerting the opponent.

1. **The Kick:** Raise the right knee until the thigh is horizontal. (The left knee is slightly bent.) Kick out viciously bringing the foot back at once to avoid its being caught. When opponent is down attack with usual type of kick to vulnerable parts and if possible avoid going to ground with opponent (Fig. 65).

2. **The Front Strangle:** Grasp opponent's clothing on shoulders with both hands (forearms crossed and right arm uppermost) right hand on opponent's right shoulder and left hand on opponent's left shoulder. Force right forearm against opponent's throat, elbow forward as far as possible and pull to your left with your left hand. Bend his head back and strangle, keeping close to his body.

Fig. 66.

3. **The Leg Trip:** Grasp opponent's sleeves above elbows, keeping the feet spread and well braced pull him toward you (quickly) and to your left, taking a small step

to right with right foot. At the same time place your left foot with a quick sweep against his right leg, above ankle. Keep your legs and body straight. Release hold as he falls and kick (Figs. 66 and 67).

FIG. 67.

4. To Control Prisoners: (a) (Come Along) Grasp opponent's right wrist with your right hand (palm to palm). Pull him quickly toward you, turning to the right, so that you will face in the same direction that he does. At the same time place your left arm over his right arm close to shoulder—bend your left elbow and place forearm under his arm above his elbow, locking his arm; raise your left forearm grasping your own clothes well up on chest and apply pressure with your right using your left arm as a fulcrum. At the same time press his wrist down, keeping his arm extended (Figs. 68, 69 and 70).

FIG. 68.

(b) Or shove your left hand under his right arm close to his shoulders, grasping his pack strap or his shirt, and force his arm down by pressure with your right hand (Fig. 71). Method (a) is more desirable for use than (b).

Killing Holds: These holds are useful when on patrol or under conditions where it is impossible, or inadvisable because of noise, to use weapons.

5. Rear Strangle: Useful for attack on sentry from the rear. When attacking opponent from the rear, grasp his shoulders with both hands and immediately jerk him toward you. At the same time drive right foot to back of opponent's right knee (Fig. 72). Swing right arm over his right shoulder with the forearm across throat. Grasp your right wrist with

FIG. 69.

FIG. 70.

your left hand. Keep your right shoulder pressed to back of his head—your head pressed tightly to left side of his head (Fig. 73). Force him to the ground and break his neck by placing your feet well to the rear, tightening your arms and pressing your shoulder tightly to the back of his head. This hold, properly executed, will break opponent's neck. Failing this, it still is effective as a strangle hold (Fig. 74).

6. Head and Neck Hold: Useful when opponent is met head on or from the side when crawling on patrol.

When crawling on hands and knees and meeting enemy in head-to-head position, lunge forward dropping chest on

back of his head. Slip left arm around his neck—forearm across his throat—grasp your right wrist with left hand as right hand is placed on opponent's left shoulder near the neck. Force up on left forearm and bear down with chest on back of his head (Fig. 75). NOTE: This hold can also be used on an opponent who rushes into a grapple with his head down.

FIG. 71.

NOTE: Holds 5 and 6 are extremely dangerous and effective. Care should be taken in practice to apply them **lightly** and without using **pressure.**

DEFENSES AGAINST ATTACKS

7. Hand Throttle from Front: Swing right arm with clenched fist over opponent's arms, at the same time turning shoulders sharply to the left, breaking his hold. Drive elbow or forearm back to jaw.

FIG. 72.

8. Under Arm Body Hold from Front: Dig thumbs into eyes forcing his head back, gouging out eyes. Follow by driving knee to crotch.

9. Opponent Charges with Head Down: Apply "strangle" as follows: Push opponent's left shoulder down with right hand and slip forearm across throat with armpit to back of his

head—grasp your right wrist with your left—pull the arm tightly against throat, raising the body, bending back at the waist and keeping armpit tight against back of his head, strangling him. This hold can also be applied to the left side. (See instruction No. 6.)

Fig. 73.

10. Under Arm Body Hold from Rear : Stamp heel on opponent's instep and drive head to face. At the same time grasp one finger of either hand with your corresponding hand—breaking finger and hold.

General Note.—To finish opponent who hangs on and attempts to pull you to the ground always break his hold by driving knee or foot to crotch or jabbing thumbs to eyes. This applies to all except rear holds.

Fig. 74.

OFFENSE WITH KNIFE AGAINST OPPONENT WITH OR WITHOUT KNIFE

Take boxer's position. Keep left arm in front for a guard. Hold knife in fingers of the right hand as in offense and thrust

FIG 75.

for abdomen rather than ribs or face. After making the point either slash up or to the side. Keep your body protected by holding left forearm bent at elbow and in front of body (Fig. 76).

OPPONENT STRIKES DOWN WITH KNIFE

Guard the thrust by placing left arm up, forearm at right angles to your upper arm (striking opponent's forearm near the wrist). Bend his arm backward, at the same time stepping forward with the right foot, turning your body to the left. Pass your right arm under upper part of his right arm, keeping your right shoulder close to his body, grasping his wrist. Force his arm back and down breaking arm (Figs. 77 and 78).

FIG. 76.

OPPONENT THRUSTS UP OR FORWARD WITH KNIFE IN RIGHT HAND

Step to the left and guard his thrust by striking his forearm with your left forearm (left forearm bent at elbow). Grasp

FIG. 77.

FIG. 78.

opponent's right wrist with your left hand (thumb down). Then grasp knife hand with your right hand (your fingers at back of his hand, your thumb around his thumb). Twist his wrist

upward and outward as you turn your body to the left, breaking wrist. Maintain hold and kick (Figs. 79, 80 and 81).

FIG. 79.

FIG. 80.

DEFENSE OF UNARMED MAN AGAINST OPPONENT WITH BAYONET

The purpose of the following methods is to teach an unarmed man how to gain possession of opponent's rifle. Quick-

ness and accuracy are the main factors of an effective attack or defense. The bayonet is ineffective at very close range,

FIG. 81.

FIG. 82.

and the first problem is to get inside of the range of the point. Spar for an opening and when one appears close in and get your hands on the rifle. When the opponent thrusts, parry

the bayonet to the right with the left palm, at the same time turning your body to the right (Fig. 82). Grasp the rifle with the right hand above opponent's left hand, and with your left hand on the rifle above his right (Fig. 83). Then use any one of the following procedures for which there may be an opening:

Fig. 83.

11. Trip to the Right: Place your left hand under and around your opponent's left arm close to the shoulder. Step in and place your left foot outside of and behind his left foot (Fig. 84). Turn quickly to the right, pivoting on right foot, forcing stock of rifle against his body by pulling with the right hand, throwing him over your left leg to the ground and gaining possession of rifle (Fig. 85).

12. Trip to the Left: While struggling for possession of the rifle suddenly press down with your right hand and raise up with your left hand. Quickly slip your left arm under the rifle and place it over and around his right arm (Fig. 86). Swing rifle to the left with your right arm, at the same time place your right foot outside his right foot (Fig. 87). Pivot on the left foot and throw him over your right leg to the ground, gaining possession of the rifle (Fig. 88)

Fig. 84.

13. Right-Hand Pry and Punch: While struggling for possession of rifle place your right forearm **under** rifle barrel and

FIG. 85.

over opponent's left wrist. Pry his hand down suddenly and swing rifle to the left with your left arm. Drive right fist to

FIG. 86.

FIG. 87.

opponent's jaw and kick to crotch. If blow and kick are ineffective follow up by quickly placing your right forearm under

rifle stock and over his right wrist and pry, gaining possession of rifle.

14. **Wrist Twist to the Right:** After parrying bayonet to the right with your left palm, quickly place your left hand around his left hand (fingers around his thumb and your thumb on

FIG. 88.

FIG. 89.

the back of his hand). Grasp his left wrist with your right hand (fingers around his wrist and your thumb against back of his hand). Swing his arm down and to the right breaking his wrist (Fig. 89).

IMPORTANT NOTE: In all close fighting, whether armed or unarmed, remember to use the kick or to drive the knee to the crotch whenever an opening appears.

CHAPTER VIII

Boxing

Boxing requires a high degree of mental concentration, great alertness and body control, the ability to judge time and distance, and a fine coördination of mind and muscle. It develops to a marked degree courage and self-reliance. It has for its aim the overcoming of an opponent who likewise is using his own brain and strength in opposition. The big contribution of boxing to military training is that it develops in men the willingness and ability to fight effectively at close quarters.

Boxing and bayonet fighting demand the same qualities of spirit and body: agility, aggressiveness, and a fearless determination to see the contest through regardless of punishment. Experience in boxing develops in men a knowledge of themselves and confidence in their own abilities, and a readiness to see and take advantage of an opponent's mistakes, that greatly increase their effectiveness in a real battle. Both boxing and bayonet combat require a fighting spirit that breaks down or weakens defense, and makes openings for an effective "finish."

FORMATION FOR INSTRUCTION

1. With or Without Gloves: For instruction or practice in blows and for shadow boxing:

Have the men fall in in column of squads or column of platoons, and extend on number ones to the left. At the command, "OPEN RANKS—MARCH" the odd numbers in front rank take two paces forward and the even numbers in rear rank take two paces backward (Fig. 90).

2. With Gloves: For instruction and practice against an opponent:

When the section is in column of squads and is going to use the gloves, it should execute right face, then odd numbers about face and engage even numbers. If in column of platoons, front

rank of each platoon executes about face and engages rear rank (Fig. 91).

FIG. 90.

The selection of blows and methods of teaching which follow have proved successful in soldier training.

FIG. 91.

METHODS OF TEACHING

When teaching a section always demonstrate the move or blow, using one of the men as an opponent. The instructor

should face in the same direction as the section does when demonstrating a blow.

Explanation should be brief and to the point. The section will learn easier and quicker through watching you demonstrate than they will through listening to long explanations.

Speed is of immense importance in all boxing moves. The muscles should ordinarily be relaxed and should be tensed only at the moment of delivering a blow or guarding.

After the lessons have progressed to a point where the men are permitted to box for a short time to put into actual practice what they have been taught, care should be taken to match the men as equally as possible. Caution the men against hitting with the open glove (slapping) and against hitting hard until they have acquired some knowledge of the game.

COMMANDS USED IN TEACHING

"ATTENTION"—Section comes to "attention."

"ON GUARD"—Section assumes the "on guard" position.

"BLOWS BY COMMAND" (preparatory command)—followed by name of blow, *e.g.*, "RIGHT HOOK TO JAW."

"STRIKE" (Command of execution)—Section delivers blow and returns smartly to "on guard" position.

"AT EASE"
"AT REST"
"DISMISSED" } —Conforming to military procedure.

"BLOWS BY COUNT"—Each position is held until succeeding count is called.

(NAME OF BLOW)—for example—"RIGHT HOOK TO JAW."

"STRIKE"—Section executes blow and **remains at position of landing.**

"TWO"—Return smartly to the "on guard" position.

NOTE: The practice of giving "blows by count" enables the instructor to correct individual or class mistakes. This method should be limited in use as it has a tendency to develop deliberate action.

METHOD OF DELIVERING BLOWS

Always hit with front of knuckles. At time of landing the wrist should be straight, so that there will be a straight line along the forearm to the knuckles. It is to be understood in general that any well delivered blow is made from the ball of one or the other foot and is backed up by the snap of the body and shoulder.

DEFINITION OF TERMS USED IN TEACHING

Leading: "Leading" is taking the initiative by striking out with either hand.

The logical lead is a left lead, but at times conditions will permit the use of the right-hand lead.

Types of leads recommended: (1) Left lead to head; (2) Left lead to body; or (3) Right hook following a feint.

Countering: A "counter" is an immediate return with either hand of an opponent's blow.

The successful counter is a very effective blow because the opponent is advancing when your blow lands; and its own force is augmented by the forward motion of your opponent in attempting to land his blow.

Hook: A "hook" is a blow landed with either hand with the arm bent at the elbow. It may be used either as a lead or a counter. The fist instead of going straight to the mark as in a "straight blow" travels through the arc of a circle and lands with bent elbow.

Timing: "Timing" is the sensing of an opponent's lead or his intention to lead, and getting in your own attack before his blow lands (beating him to the punch).

Blocking: "Blocking" is rendering an opponent's blow ineffective by placing your hand, forearm, or elbow between the attacking fist and your body.

NOTE.—(a) Blocking is a purely defensive action.

(b) Blows to the head are blocked with the right hand (palm out) keeping the elbow close to the body, and assisting with the left shoulder.

(c) Blows to the body are blocked with the elbows and forearms.

Slipping: "Slipping" is the moving of the head and body quickly to either side to avoid a "straight blow."

NOTE: While slipping is primarily a defensive action, it possesses the added advantage of making it possible for the boxer to initiate an effective "counter" attack with either hand.

Ducking: "Ducking" is quick bending of the body, lower-

FIG. 92.

ing and turning the head (bending the head at neck) to avoid a hook or swing.

NOTE: The first move of the head in "ducking" should be made in the same direction as the attacking blow (away from the blow).

Parrying: "Parrying" is the diverting of an opponent's straight blow by sharply striking with the palm of either hand the attacking hand or forearm (Fig. 92).

NOTE.—This has a tendency to throw an opponent off his balance leaving an opening for a "counter" with the other hand.

Feinting: "Feinting" is any action which is intended to mislead your opponent into thinking that you are about to

make an attack, or to mislead him in regard to the kind of attack you are about to make.

It is designed to induce your opponent to make some movement which will leave an opening for a blow.

Telegraphing: "Telegraphing" is unconsciously warning an opponent in advance of an intended move or blow—for example—drawing the hand back before "leading."

Guarding: "Guarding" is any manœuver such as blocking, parrying, etc., which is intended to render an opponent's blow ineffective.

Footwork: "Footwork" comprises the proper movement of the feet to enable the boxer to maintain good poise and balance and to adapt himself to all phases of offense and defense.

"Footwork" is moving in any direction with short shuffling steps keeping feet in the same relative position all the time.

NOTE: Generally speaking the right foot is never in advance of the left foot, excepting in sequence of blows which are used as a preliminary training for bayonet fighting.

Shadow Boxing: "Shadow boxing" is boxing with an imaginary opponent and performing with snap and precision all of the movements which are required in actual combat.

NOTE.—The primary object of shadow boxing is to practice blows and to develop quickness of body, smooth footwork, and good boxing form. It should be made as real as possible. An attempt should be made to visualize opponent.

Warning: Shadow boxing executed with snap and vigor is a very valuable practice which will enable the boxer to secure freedom of action, quick response of body, and endurance; but the instructor must always be keen to prevent this phase of practice from becoming slovenly and spiritless, and leading to the formation of bad habits; on the other hand, when it is slowly done, without snap and determination, it favors the formation of bad habits.

There are a great many terms which have not been covered in the foregoing statement covering definitions in teaching. These manœuvers, however, apply properly to advanced instruction and should not be undertaken by a beginner.

SEQUENCE OF BLOWS

It is difficult, if not practically impossible, to give the soldier an opportunity to practice bayonet fighting against an opponent except in actual battle. The use of the spring bayonet for this purpose has many disadvantages in addition to the cost of the equipment. Inasmuch as boxing and bayonet fighting demand the same qualities, such as endurance, agility, and an automatic readiness to seize an opening, boxing contests properly conducted furnish a useful substitute for bayonet contests.

FIG. 93.

The value of boxing for this purpose is still further enhanced by the fact that there are certain sequences of action which are common to both bayonet fighting and boxing and which should be practiced with the gloves until they become automatic and thereby will be available for effective use in the stress and

excitement of actual bayonet combat. Following are a few examples of this type of sequence:

1. Straight left to the face and right hook to the jaw—which resemble a long point and a butt stroke to the jaw.

2. Straight left to the body and right hook to the body—which resemble a long point for the body followed by butt stroke to the ribs (Fig. 93).

3. A straight left to the face and a right upper cut—which resembles a long point and a butt stroke to the crotch.

4. Straight left to the face, right hook to the body, left hook to the jaw—which resembles a long point to the throat, a butt stroke to the body or crotch, and a slash to the head or neck.

NOTE: In practicing the above combinations in boxing, shift the feet as you make the right hook, placing the right foot forward, and hook hard with all the weight of the body behind the blow.

GENERAL NOTES

1. It is always wise to precede a "lead" with one or more feints.

2. When "shadow boxing" advance by stepping forward with the left foot and follow with the right foot—always keeping the feet a walking pace apart so as to maintain balance.

3. When hitting with one hand be prepared to "block" or follow up with the other hand.

4. To make blows effective aim at side of opponent's chin, nose, heart, solar plexus (stomach) or liver.

5. The success of any blow depends upon its speed and unexpectedness. Care should be taken to avoid "telegraphing." (This should not be confused with "feinting.")

6. The three fundamentals in boxing are (a) quickness, (b) accuracy, and (c) force of blow.

7. Aggressiveness is the best defense at all times, although there are times when a blow may be avoided by quickly bending the body backward at the waist, causing the blow to fall short, thus placing you in an advantageous position to "counter."

8. Keep moving at all times when boxing, as it is much more difficult for your opponent to land while you are moving.

9. When you are not in striking distance of your opponent, drop your arms and relax, but be alert to come to the "on guard" position.

NO. 1: ON GUARD POSITION

Preparatory Command: "Attention."

Command of Execution: "On Guard."

From the position of "Attention" take a walking pace forward with the left foot, place the left foot flat on the ground

FIG. 94.

"ON GUARD" (Front)

NOTE: Elbows close to side; body poise, balanced about equally on both feet; position of hands.

FIG. 95.

"ON GUARD" (Side)

NOTE: Position of hands; balance; knees slightly bent.

to the left of the right foot and pointed ahead. Raise the right heel from the ground about one inch, at the same time bend both knees slightly. Balance weight equally on both feet. Keep the elbows close to the body, raise the left forearm to a horizontal position. Raise the right fist so that it will be in front of the center of the chest and slightly away from the body (Figs. 94 and 95).

Close the fist and turn in and slightly down. Bend and turn the body slightly to the right, and keep the left fist and forearm pointed at center of opponent's body. Keep the chin down. Relax all muscles in arms and shoulders and assume a determined facial expression.

NOTE: (a) Generally speaking all leads are delivered from this position.

(b) A common fault with beginners is to place most of the weight of the body on the left foot.

It is not to be understood in the foregoing description of the "on guard" position that the boxer is to maintain a rigid posture. The "on guard" position should be maintained without undue tension and rigidity of the muscles, —the body should be kept in good poise—the fists lightly closed until the instant the blow is landed, when the attacking fist should be tightly closed.

FIG. 96.
STRAIGHT LEFT AS A LEAD
NOTE: Position of striking hand; the line from left fist to right foot; position of right hand.

FIG. 97.
STRAIGHT LEFT AS A COUNTER
NOTE: Blocking hand; right elbow close to body; left shoulder is advanced to get full reach.

Method of holding hand when delivering a blow: Fist closed,

FIG. 98.

STRAIGHT LEFT TO BODY AS A COUNTER

NOTE: Position of right hand. Left arm horizontal. Eyes on opponent.

FIG. 99.

RIGHT HOOK TO BODY AS COUNTER TO STRAIGHT LEFT

NOTE: Right shoulder is forward. Arm properly hooked. Right hand in position to block or follow up.

thumb down over first and second fingers, back of hand in straight line with wrist and arm, and hand turned in such a way in striking that the force comes mainly on the front of the second and third knuckles.

NO. 2: STRAIGHT LEFT TO THE FACE

1. As a "lead": From the on-guard position, shoot out the left hand (palm down) straight to your opponent's face, stepping forward with the left foot, pushing off the ball of the right foot, and keeping right foot on the ground. The blow should land a fraction of a second before the left foot touches the ground. At moment of landing the right hand is raised to chin (palm outward) and ready to follow up with right-hand blow or to block (Fig. 96).

FIG. 100.
LEFT HOOK TO BODY AS COUNTER TO STRAIGHT LEFT

NOTE: Striking hand and arm; eyes are on the blow; position of right hand while landing with left.

2. As a "counter": Block or evade opponent's lead and at the same time shoot left straight to face (Fig. 97).

NO. 3: STRAIGHT LEFT TO THE BODY

1. As a "lead": Step forward quickly, bending the body at the waist to the right and drive the left hand to opponent's body. The foregoing movements are executed as one. The body should be inclined sufficiently to the right, so that the shoulders and left fist will be approximately on a level.

FIG. 101.
RIGHT HOOK AS A COUNTER TO LEFT LEAD

2. As a "counter": As opponent leads to head, bend body quickly to the right causing his blow to go over the shoulder, and drive the straight left to body (Fig. 98).

NO. 4: RIGHT HOOK TO THE BODY

1. Step forward and slightly to the left with the left foot, hook the right hand to the body under the heart keeping the right elbow close to the body and bring the shoulder forward with the punch, keeping weight of shoulder behind the punch.

2. As a counter to an opponent's straight left to the face: "Slip" to the left and "hook" right hand to the body landing the blow under the heart. The body is turned to the left slightly, and the right shoulder is brought forward with its weight behind the blow (Fig. 99).

NO. 5: LEFT HOOK TO THE BODY

1. As a lead: Step forward with the left foot and hook the left hand to the body (palm facing your body) turning slightly to the right on balls of both feet.

FIG. 102.
RIGHT HOOK TIMING A LEFT HOOK

NOTE: Body inclined slightly to left to get inside of left hook; right arm is bent and shoulder is behind blow; position of left arm.

2. As a counter: When opponent leads straight left to face slip to the right, drawing left shoulder and arm back slightly, and hook left hand to the body, keeping the weight of the the left shoulder behind the blow, and turning slightly to the right on balls of both feet (Fig. 100).

NO. 6. RIGHT HOOK TO THE JAW

1. Step forward and slightly to the left with the left foot, hook the right hand to the side of the jaw, raising the elbow slightly and throwing the shoulder forward with the punch, keeping the weight of the right shoulder behind the blow.

2. As a counter to a straight left to the face: "Slip" to the left and hook the right hand (palm down) over his arm to jaw. Raise right elbow high so that your forearm does not touch opponent's shoulder (Fig. 101).

Fig. 103.
LEFT HOOK TO JAW AS A COUNTER
Note: Position of left hand and arm.

3. As a "time" punch when opponent leads a wide left hook to the jaw: Step in quickly and at the same time drive a short right hook to the jaw (beating him to the punch), keeping the weight of the right shoulder behind the blow (Fig. 102). The right hook properly delivered is a most useful blow.

NO. 7. LEFT HOOK TO THE JAW

1. As a lead: Step forward with the left foot and hook the left hand (palm down), keeping the weight of the left shoulder behind the blow, to the right side of the opponent's

Fig. 104.

RIGHT UPPER CUT AS A LEAD

Note: Position of right arm and fist, also left fist. Body is in blow.

turn to the right on the balls of both feet and bring the shoulder forward with the punch (Fig. 103).

NO. 8. RIGHT UPPER CUT

1. Bend slightly and drive right hand up to opponent's body or chin (palm facing you at time of landing) (Fig. 104).

2. **As a counter to a straight left to face:** "Slip" to the right, slightly bending both knees and "upper cut" to jaw (Fig. 105).

jaw, turning to the right on the ball of the right foot, landing the blow a fraction of a second before the left foot touches the ground.

Note: As the blow lands the left elbow should be on a level with the fist.

2. **As a counter to an opponent's straight left to the face:** "Slip" to the right, slightly drawing back the left shoulder and arm. Hook the left hand to the right side of opponent's jaw,

Fig. 105.

RIGHT UPPER CUT AS A COUNTER

Note: Position of right fist. Left hand is ready to follow up.

PROGRAM OF INSTRUCTION IN BOXING

(Times Indicated are the Minimum. Much More Time Should be Spent Upon Reviews if Possible.)

Lesson No. 1

	Minutes
1. Talk on object of Army boxing and benefits derived	10
2. Class arrangements	10
3. Explain, demonstrate, and practice "on guard" position	10
	30

Lesson No. 2

1. Review of Lesson 1	10
2. Straight left lead to the face	10
3. Block for straight left to face	5
4. Parry straight left with right open palm	5
	30

Lesson No. 3

1. Review of previous lessons	10
2. Straight left to face as a counter	5
3. Straight left to body as a lead	10
4. Shadow boxing and feinting	5
	30

Lesson No. 4

1. Review of previous lessons	14
2. Straight left to body as a counter	10
3. "Slipping" straight left leads to face	5
4. One round boxing	1
	30

Lesson No. 5

	Minutes
1. Review of previous lessons	12
2. Right hook to body	5
3. Right hook to body as a counter to straight left to face	5
4. Ducking	5
5. Two rounds of boxing (one minute each)	3
	30

(One minute rest between boxing rounds in this and following lessons.)

Lesson No. 6

1. Review of previous lessons	10
2. Left hook to body as a lead	10
3. Left hook to body as a counter to straight left to face	5
4. Two rounds of boxing (1½ minutes each)	5
	30

Lesson No. 7

1. Review of previous lessons	15
2. Right hook to jaw	10
3. Three rounds of boxing (one minute each)	5
	30

Lesson No. 8

1. Review of preceding lessons	10
2. Right hook to jaw as a counter to straight left	8
3. Right hook to jaw as a time punch to left hook to jaw	5
4. Three rounds of boxing (one 2-minute round and two 1½-minute rounds)	7
	30

Lesson No. 9	Minutes
1. Review of preceding lessons	10
2. Left hook to jaw as a lead	8
3. Left hook to jaw as a counter to straight left	5
4. Three rounds of boxing (one 2-minute round and two 1½-minute rounds)	7
	30

Lesson No. 10	
1. Review of preceding lessons	10
2. Right upper cut	7
3. Right upper cut as a counter to straight left	5
4. Three rounds of boxing (two minutes each)	8
	30

NOTE: Wherever "straight left" is mentioned it is intended that the blow shall be a "straight left to the face," unless otherwise stated.

MASS BOXING

It is very desirable to give every fighting man in training actual experience in boxing an opponent. It is too frequently the tendency to allow boxing contests to be largely monopolized by the more skilful men in a given unit. This tendency can be obviated in a measure by using the following plan, which will enable the physical training officer and his assistants to give every man in a company two rounds of one minute each of actual fighting in a period not to exceed one-half hour. At least 12 sets of gloves should be available.

1. Divide the men according to weights, as follows:

125 to 135
135 to 145
145 to 160
160 to 175—and over.

Then form them in a hollow square so that all the men can see, and change of gloves can be made without delay.

2. The men should be paired off so that their opponents will be approximately their own weight.

3. At a signal the first group of 24 men should put on the gloves and stand on a line with four yards between each two men and two yards from and facing their opponents.

4. At signal, they should step forward, shake hands, and box *hard* for one minute until signal sounds, when they will immediately stop boxing, shake hands and double to the rear, where a second section will be lined up waiting their turn. The boxers who have just finished their boxing will take off their gloves and assist the new men to put them on. They will then stand at ease to watch the succeeding bouts.

5. The physical training officer and his assistants must be on hand to stop a fight if a man is being unduly punished.

6. After every man has fought one round, the entire section can be put through a second round in the same way.

The preceding plan has been found to be very successful.

CHAPTER IX

Bayonet Training*

Introductory—The Spirit of the Bayonet

1. It is an easy matter to teach the few simple technical details of bayonet combat, but an instructor's success will be measured by his ability to instil into his men the will and desire to use the bayonet. This spirit is infinitely more than the physical efforts displayed on our athletic fields; more than the enthusiasm of the prize-ring, more, even, than the grim determination of the firing line—it is an intense eagerness to fight and kill hand to hand, and is the overwhelming impulse behind every successful bayonet assault.

Bayonet fighting is possible only because every red-blooded man naturally possesses the fighting instinct. This inherent desire to fight and kill must be carefully watched for and encouraged by the instructor. It first appears in a recruit when he begins to handle his bayonet with facility, and increases as his confidence grows. With the mastering of his weapon there comes to him a sense of personal fighting superiority and a desire for physical conflict. He knows that he can fight and win. His practice becomes snappy and full of strength. He longs to test his ability against an enemy's body; to prove that his bayonet is irresistible. He pictures an enemy at every practice thrust and drives home his bayonet with strength, precision, and satisfaction. Such a man will fight as he has trained—consistently, spiritedly, and effectively. While waiting for the zero hour he will not fidget nervously. He will go over the top and win.

Successful training implies that men will use on the battlefield what they have learned on the drill-ground. To do this a man must move to the attack possessed not only of a determi-

*From U. S. Bayonet Manual, 1918.

nation to win, but also of a perfect confidence in his third arm —the rifle. Such a confidence is born only of long, constant practice, which is the very essence of bayonet training.

Without this, a bayonet assault will fail. The man who bores in at a dead run enjoys the advantage of a superior morale. The man who waits to fence loses his own nerve and helps the enemy take heart. The enemy may have a longer weapon than ours. This gives him the advantage if we stand off and fence, but gives us the advantage if we close with him.

The growth of the spirit of the bayonet is fostered by short talks on what has already been accomplished with the bayonet. The men must be thoroughly informed of probable treachery on the part of the enemy. They must be informed of the possible enemy tricks of pretending to surrender or to be wounded, only to fire upon or bayonet their prospective captors the instant they lessen their aggressiveness.

The bayonet is the deciding factor in every assault and the soldier must realize that its successful employment requires of him not only individual physical courage, but also perfect discipline and a thorough knowledge of teamwork. In a bayonet fight the nerviest, best disciplined and most skilful man wins—the will to use the bayonet plus cold steel and thorough training assure success.

Continuous Training

2. The perfect confidence of the soldier in his weapon as required by this Manual is the outcome only of long, continuous practice. To this end bayonet training will be kept up at all times, except while actually in the trenches.

Development of the Individual

3. It is absolutely essential that each man be taught to think and act for himself, and there must be no interval of time between the thinking and the acting. To attain this end, make the men use their brains and eyes to the fullest extent by carrying out the practices, so far as possible, without words of

command, *i.e.*, by demonstration. Cause them to parry sticks, to thrust at a shifting target as soon as it is stationary, etc. The class should always work in pairs and act on the principle of "master and pupil" alternately. This in itself tends to develop individuality and confidence. Sharp, jerky words of command produce mechanical movements of the piece and will not be used. Rapidity of movement and alertness of mind are taught by various quickening exercises and games which require quick thinking and instantaneous muscular response. Boxing, wrestling, and all kinds of rough-and-tumble fighting play an important rôle in the development of the individual.

Teamwork

4. While actual bayonet combat is individual, each man must understand from the very first that he is fighting for his side, and not for himself alone. It follows, therefore, that he must be familiar with the tactical employment of the bayonet. He must not only know **how,** but **when** and **when not** to use it. For instance, it is absurd for a bayonet man to chase a retreating enemy and stab him in the back; he has a bullet in his rifle for just that purpose. Again, the man who, forgetting that he is only a member of the team, rushes ahead of his comrades is always needlessly killed, thus helping the enemy and wasting his own life, as well as the time and efforts of the country he is trying to serve. Perfect teamwork is required in order to have a good line in the attack, but it is of more importance there than on dress parade.

The bayonet man is frequently called upon to act as protector to his constant comrade, the grenade-thrower, who is practically unarmed. This one fact requires that the bayonet man be familiar with the tactics of both weapons—bayonet and grenade—in mopping-up parties, trench raids, shell holes, and assaulting waves.

The supreme test of a soldier's training is to demand of him that he hold a position at the point of the bayonet. In such cases he must know just how to coördinate himself with the

grenadiers and machine-gunners. He must know just what kind of a countercharge to make and exactly when to start it.

Finally, there is for the instructor to consider the close relation between controlled rifle fire and the bayonet, the last—and perhaps the most important—phase of bayonet training.

Equipment

5. The rifle must always be in good condition—clean, oiled, and in perfect working order. Care must be taken that the object representing the enemy be incapable of injuring the bayonet or butt. Only light sticks are to be used for parrying practice with the rifle.

The chief causes of injury to the bayonet are: Delivering a sweeping point instead of a true or direct point, failure to withdraw the bayonet clear of the dummy before advancing and placing the dummies on hard, unprepared ground.

Discs

6. For practicing direction there must always be an aiming mark on the dummy. Cardboard discs, 3 inches in diameter, can be improvised for this purpose. By continually changing the position of the disc the life of the dummy can be considerably prolonged. Five or six circles can be painted on the dummies to take the place of discs; the discs, however, will always be used in competitions. A number of circles, painted white, make the best marks.

Dummies

7. Dummies, representing in size the trunk of a body, should be constructed of brushwood whenever available; failing this, use sacks filled with the material at hand that will offer most resistance to penetration and withdrawal without injuring the bayonet. Dummies must be so suspended that they offer the most resistance to the attacker and at the same time can be easily replaced.

Withdrawal Boards

8. The withdrawal board is an instrument used to impress upon the mind of the student the amount of resistance to be expected in withdrawing the bayonet after a thrust. It can be constructed of a barrel stave or other board of similar dimensions, hinged at the top to a 4 x 4-inch upright, the lower end being left free. The instructor causes the student to place his bayonet between the upright and the board, and then presses upon the free end of the board, thus clamping the bayonet between the board and the upright. The amount of pressure exerted by the instructor varies with the resistance which it is desired to illustrate.

Other Apparatus

9. Service Rifle and Bayonet: Scabbard on bayonet, except when practicing on dummies or withdrawal boards.

Plastrons, masks, and gloves—one set for each man.

The training stick is a light stick, 5 feet to 5 feet 6 inches long and ¾-inch to 1 inch in diameter, padded at one end and provided at the other with a light rope or wire thrusting ring having a diameter of 3 inches. One for each man.

The Wooden Rifle: Same outline as the service rifle, except that the part which corresponds to the bayonet is in prolongation of the barrel, no attempt being made to have the bayonet below the barrel, as this would weaken the junction. The balance is the same as the service rifle, and the weight nearly the same. A tennis ball, fastened to the end by canvas strips, makes the best pad. Hair or excelsior will answer. One for each man.

Unless this very important part of a soldier's training equipment becomes an article of issue, it can be sawed out of a piece of timber 2 inches x 6 inches x 5 feet, and trimmed into shape by hand. The length of the wooden rifle, with tennis ball attached, can be made the same as the Model 1917 rifle, with bayonet fixed. No effort should be made to use the present fencing rifle. It is worse than useless.

Boxing gloves and a wrestling mat are essential parts of the equipment. They are indispensable in developing close and rough-and-tumble fighting.

Trench System

10. There must be one or more trench systems for use in the assault training, trench and obstacle jumping, mopping-up parties, trench raiding, and, in general, for the tactical

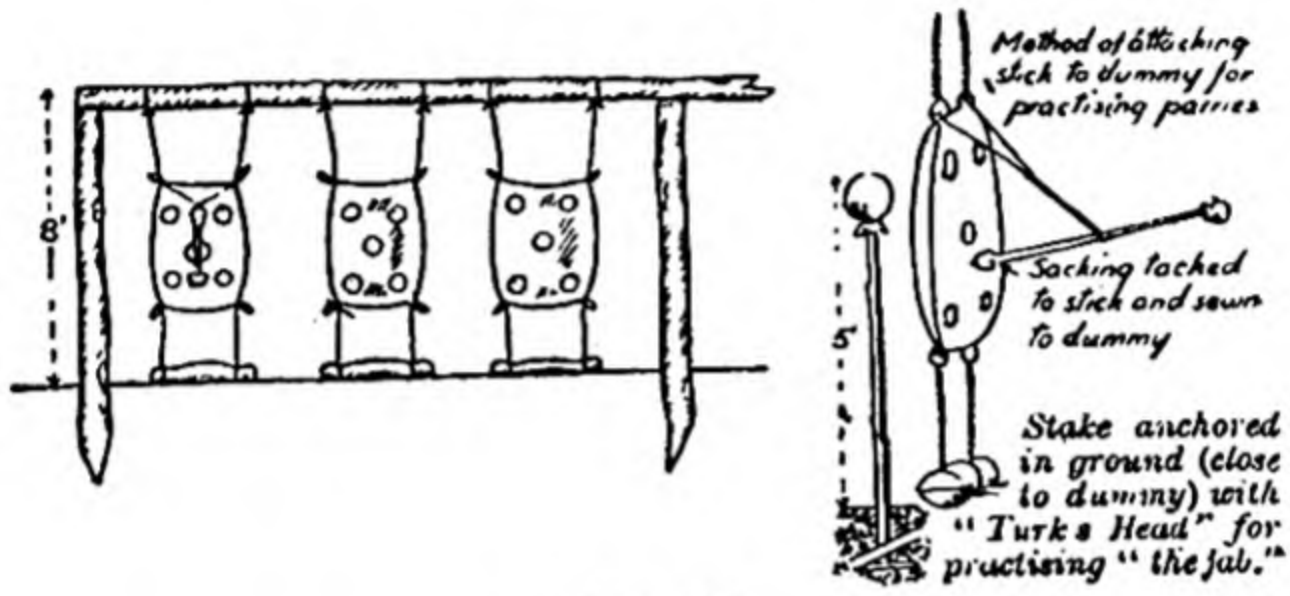

8'
5'
Method of attaching stick to dummy for practising parries
Sacking tacked to stick and sewn to dummy
Stake anchored in ground (close to dummy) with "Turk's Head" for practising "the jab."

FIG. 106.

application of the principles of the bullet, bayonet and grenade combined.

No effort is, or should be, made to prescribe a type trench system. The instructor knows now what he wants; the details are left to his own ingenuity. If the terrain is suitable for the construction of dugouts, moving and pendulum targets, dummies, etc., a combined course will easily result.

The proper construction and upkeep of the dummies and the repair of the assault training courses form part of the duties of the officers directly responsible for this part of the training.

SPECIAL FEATURES OF THE BAYONET AND SUGGESTIONS TO INSTRUCTORS ON CARRYING OUT BAYONET TRAINING

Requirements of Good Bayonet Work

11. To attack effectively with the bayonet requires **nerve, good direction, strength,** and **quickness** during a state of wild excitement and probably physical exhaustion.

Killing Range

12. The maximum killing range of the bayonet is about 5 feet (measured from opponent's eyes to your own), but more often the killing is at closer quarters—at 2 feet or less—when troops are struggling *corps à corps* in the trenches or darkness.

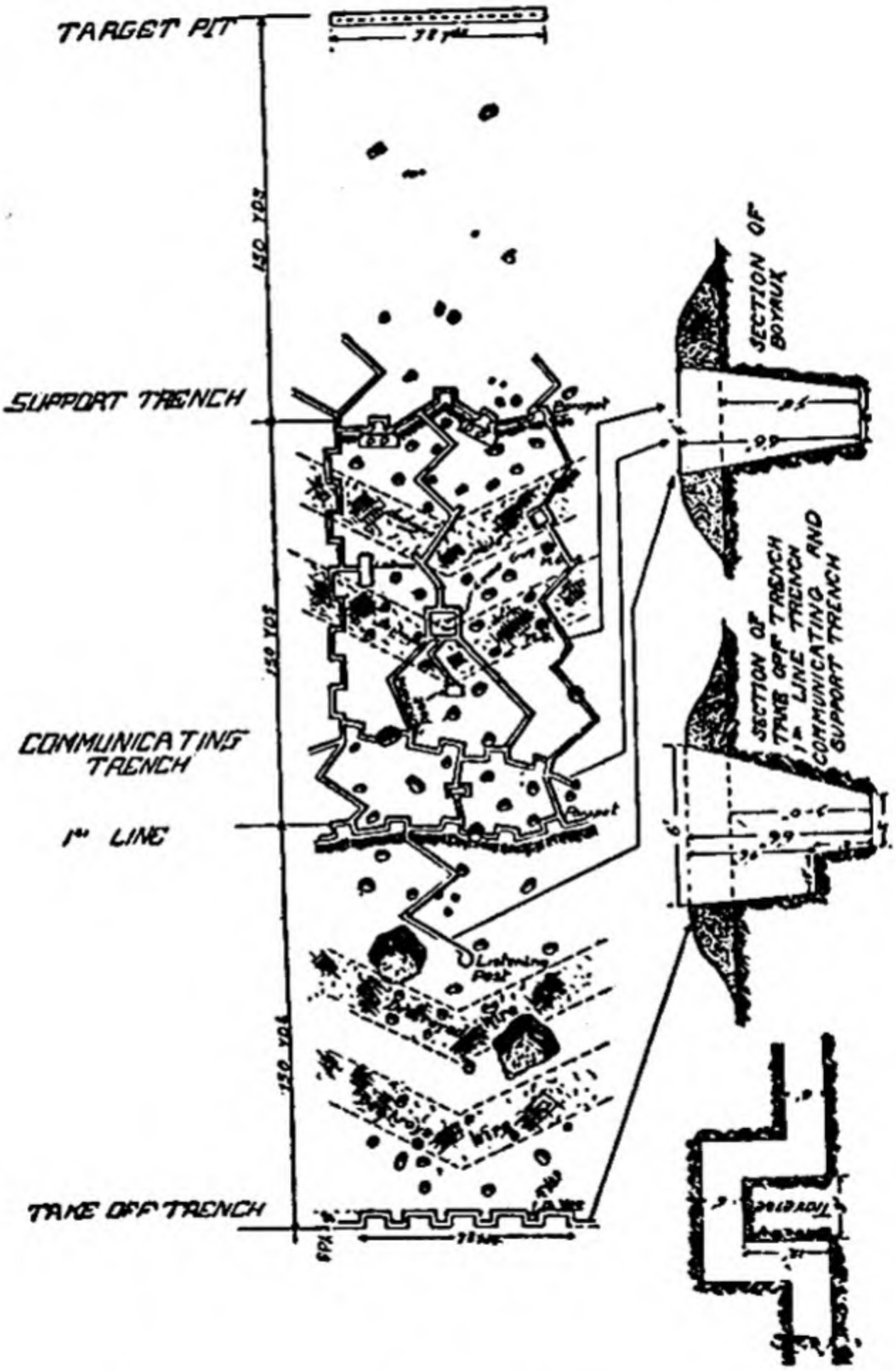


FIG. 107.

TRENCH SYSTEM SUITABLE FOR ASSAULT TRAINING, AND COMBINED TACTICS OF RIFLE, BAYONET AND GRENADE

Bayonet an Offensive Weapon

13. Remember always that the bayonet is essentially an offensive weapon. Rush straight at an opponent with the point threatening his throat, and deliver the thrust wherever an opening presents itself. If no opening is obvious, one must be made by deflecting the opponent's piece or by threatening him on one side and driving in on the other. But keep boring in. The man who fails to take advantage of an opening of one-fifth of a second in which to thrust may lose his life.

In a bayonet assault all ranks go forward **to kill or be killed,** and only those who have developed skill and strength by constant training will be able to kill.

There is no sentiment about the use of a bayonet. It is a cold-blooded proposition. The bayonet fighter **kills or is killed.** Few bayonet wounds come to the attention of the surgeon.

Length of Lessons and Practice

14. As it is not the intention nor is it necessary to make the technique of bayonet fighting difficult, long detail is quite unnecessary, and serves only to make the work monotonous. All instruction must be carried out on common-sense lines. It should seldom be necessary to give a demonstration more than two or three times, after which the individual should acquire the correct position by practice. For this reason, a lesson or daily practice should rarely last more than one hour, given in two parts of half an hour each. Remember that nothing kills interest so quickly as monotony.

Strive for simplicity in all explanations. Do not quibble over minutiæ. Insist on basic principles only. Each man has his own individual way of fighting.

Work Made Interesting

15. Interest in the work is to be created by explaining the reasons for the various positions, the method of handling the rifle and bayonet, and the uses of the thrusts. Questions should be put to the men in order to ascertain whether or not they understand these reasons. When men realize the object of

their work they naturally take a greater interest in it. The instructor must have the men consider him a trainer and helper. Competitions arouse and maintain interest in the work.

Progression

16. Under the plan as herein prescribed, the work is carefully divided into successive steps, and this progression must not be delayed in order to obtain correct positions and good direction. These points having been properly covered in the instruction, their proficiency, quickness, and strength result from continual practice.

Physical Development

17. Every officer and soldier must be brought to the highest state of physical development and kept in that condition. A man must train with the bayonet as a champion trains for a contest in which his title is at stake.

In order to encourage dash and gradually strengthen the leg muscles, from the beginning of the training all classes should be practiced in charging short distances, jumping trenches and hurdles, jumping in and vaulting out of trenches, etc.

Classes for Officers and Non-Commissioned Officers

18. All company officers and non-commissioned officers must be trained as bayonet instructors in order that they may be able to teach their men this very important part of a soldier's training, which must be regularly practiced during the whole of the service at home and during the rest periods behind the firing line.

Conduct of Classes

19. The class is always formed in two ranks facing each other, with a two-pace interval. The instructor goes wherever necessary, but while demonstrating a movement he should station himself to one flank and in prolongation of the center line between ranks.

Each lesson is begun with a series of quickening movements, exercises, or games (all men like to play games) which develop

coördination of the muscles used in bayonet combat. After combat practice, the instructor should review movements taught in the recruit course and correct all errors in detail. This will correct faults induced by simulated individual fighting.

20. Since the bayonet will be used in trenches which turn at the traverses, communication trenches, etc., to the right as well as to the left, it is necessary to teach men to use the rifle with either hand in front. This in order always to present the bayonet to the enemy before the body.

Men learn to use the piece left-handed (right hand in front) with but little practice, and many prefer it. It has the advantage of placing the stronger arm in front, where it directs the piece better and adds strength to the parries.

Size of Class

21. The maximum number of men to be instructed by one trainer is twenty; better results will be obtained with classes of ten. Each man requires individual instruction and supervision. Large classes make this impossible.

To Teach a Position

22. First demonstrate the position and explain all essential points, giving reasons for them. Then show the position again, making the class observe each movement, so that from the very beginning of his training a man is taught to use his eyes and brain. Order the class to assume and practice the position just explained. Pick out the man who shows the best position and have the class look at and copy him. His position will not be ideal, but it is more nearly correct than those assumed by the remainder, who, being beginners, cannot distinguish between a good position and an ideal one.

Do not make the mistake of trying to get a class of beginners to idealize at once; only by constant practice and continual correction can perfection be obtained.

For closer personal instruction, the instructor may call out the men by pairs, letting the others practice at will the positions and movements already taught.

Do everything you can to encourage the men to practice with the bayonet, training stick, etc., while off duty around barracks or camp, while at rest during other drills, etc. Utilize your own rest periods for short talks on the use and spirit of the bayonet.

Signals

23. In practicing the various movements, the use of signals should be begun as early as practicable. Their object is to coördinate the eyes with the muscles, thus training the men to see and to avail themselves quickly of openings. The signals were devised to supersede the vicious custom of turning bayonet work into a drill by the use of commands, which deadens a soldier's initiative and ignores the training of his eye.

These signals are not imitations of the movements they call for; imitations would be of little advantage to the pupil. The idea is to indicate with the trainer's hand an opening which the pupils perceive and act upon.

The signals, easily learned, will be used by the men working in pairs—one signalling, the other thrusting, etc.

To signal for the following positions or movements, the trainer moves as indicated:

Guard: Assume it, left hand at back, right elbow at side, right forearm pointing to front; fist closed.

Short Guard: Same as guard, except that the arm is drawn straight to the rear until the fist is at the right side.

Long Thrust: Clap the right palm, fingers apart and extended, to that part of the body toward which the soldier is to aim.

Short Thrust: Same as long thrust, except the fist is closed. If pupil is not in position of short guard when he gets the signal, he comes to that position and executes short thrust.

Jab: Place both closed fists under the chin.

Parry: Strike a blow diagonally across the body in the direction the parry is to be made, fist closed. Follow by signal for thrust.

Butt Strokes: Make an upper cut with the fist to indicate a

butt stroke to the crotch, a right hook for butt stroke to the jaw, an overhand swing for butt stroke to the head.

Slash (following butt stroke): After butt stroke signal, carry the hand upward, fingers extended and joined, and slash down.

Disengage: Describe an arc with the right hand, fingers extended and joined, in the direction the disengage is to be made. Make the arc with a forward motion. Follow by signal for thrust.

Cut-Over: Describe an arc up and forward with the right hand, fingers extended and joined, in the direction the cut-over is to be made. Follow by signal for thrust. In executing the movements the point of the bayonet follows the movement of the trainer's hand, regardless of the relative right or left. When the trainer wishes the pupil to step forward with the rear foot in making any of the movements, the trainer steps to the rear as he gives the signal.

GENERAL INSTRUCTIONS FOR BAYONET TRAINING

Practice and Combat

24. (a) Scabbards will not be removed from the bayonet except for thrusting at dummies and practice at withdrawal boards.

(b) The guard, withdrawal, thrust, parries, and the jab will be taught first with the left, then the right, foot forward. Later the men must become ambidextrous in handling the rifle.

(c) The withdrawal position after a long thrust is the starting position for a short thrust. The short thrust naturally follows a long thrust.

(d) From the outset the class will be practiced frequently in making short charges in the open. This is a good quickening exercise, and it also develops the leg muscles.

(e) A target to thrust at will always be named when working by command; or if by signal, by position of hand or training stick; it will also be clearly marked on all dummies.

(f) Ranks working together must always be far enough

apart to prevent accidents when thrusts are being made. When thrusts are made advancing, the ranks will change positions by coming to high port, double timing past each other and turning about. When working against dummies men will always continue the movement past the dummies, which they will leave on their right.

(g) The withdrawal, once taught, will be made after each thrust. After a thrust, advancing rear foot or on the advance, the hand will always be moved up the rifle on the withdrawal.

(h) The padding of the training stick will be as small as is consistent with safety.

(i) In the second practices the thrusts will also be practiced deliberately and progressively on dummies placed, as a preparation for assault training, in positions of increasing difficulty, *e.g.*, on parapets and steps of shallow trenches and in fire and communicating trenches.

(j) The entire five lessons will be taught right-handed before any left-handed practice is allowed.

(k) Jumping will usually be done from the high port by throwing the piece sharply to the front on taking off and bringing it back in on landing. Some men jump hurdles very easily by holding the rifle in the guard position and throwing it up quickly on taking off. The grasp of the hands remains the same, and the piece is started down again when the man is at the highest point in his jump, thus bringing him down in a good position for thrusting. This applies the principle of jumping with weights.

25. The system of training herein prescribed is based on the direct appeal to the student's brain through his eye, his natural instinct being utilized to the greatest extent, and the maximum amount of time being spent in practicing at will what has been shown him by the instructor. Instruction by demonstration rather than by word of command is to be the invariable method.

26. Each detail, after receiving individual instruction, will double-time back to its place in ranks, and will practice what they have been previously taught, correcting one another's faults.

At least once during each lesson the class should be formed in two ranks for the following exercise: As the instructor, who carries a training stick, approaches each man, that man will come to guard and threaten the instructor with his point as long as he is sufficiently near to attack. If the instructor holds the padded end above his waist line, a parry is required; if below, a butt stroke or kick. If the ring is presented, a thrust is required. The stick is "dead" when the ring is on the ground.

27. The following sequence will be adhered to in each lesson: All instruction will first be demonstrated to the class by the instructor with a man, at a dummy, or with a training stick. The class, in class formation, will then practice at will all they have previously learned while the instructor gives each detail of two men individual instruction in the present lesson. The size of details may later be increased, according to the proficiency of the class. At the conclusion of the hour the instructor may review previous lessons by words of command.

28. The instructor must encourage the men to cultivate a facial expression of sternness, strength, eagerness to fight, and confidence in winning.

TRAINING OUTLINED AND MOVEMENTS EXPLAINED IN DETAIL

29. Bayonet training may be divided into:

(a) The recruit course, which consists of five lessons, and assault training.

(b) The trained soldier's daily practice, which constantly reviews the principles taught the recruit and combines the assault with musketry and grenade warfare.

30. The recruit course is so arranged that after six weeks service he will be able to begin the assault training. (NOTE: It is assumed that the first two weeks of a recruit's service will be given over to drawing equipment, vaccinations, inoculations, etc.) He will receive one hour instruction each day, given in two parts of half an hour each. The men will wear only such

clothing as will permit freedom of movement in the training. Shoes should be hobbed in order to prevent slipping. Helmets, belts and packs may be required in tests and competitions.

LESSON I

Vulnerable Parts of Body

31. The point of the bayonet should be directed against an opponent's throat, especially in hand-to-hand fighting, so that the point will enter easily and make a fatal wound on penetrating a few inches. Also being near the opponent's face, it tends to make him flinch. Other vulnerable and usually exposed parts are the face, chest, lower abdomen, thighs, and, when the back is turned, the kidneys. The armpit, which may be reached [illegible] if the throat is protected, is vulnerable because it contains large blood-vessels and a nerve center.

FIG. 108.
GUARD

Four to six inches penetration is enough to incapacitate and allow a quick withdrawal, whereas if a bayonet is driven home too far it is often impossible to withdraw it. In such cases a round must be fired to break up the obstruction.

Guard

32. Point of the bayonet directed at the base of the opponent's throat, the rifle, not canted, held firmly but not rigidly with both hands, the left hand, palm against side of rifle, at the most convenient position in front of the rear sight so that the left arm is only slightly bent, the right hand, palm to the left and just over the navel, grasping the small of the stock,

the right forearm pressing the upper part of the butt to the body, legs separated as in taking a natural step and meeting with resistance, left foot leading, both knees slightly bent, feet separated laterally a few inches and both feet flat on the ground, toes pointed as the man naturally points them in walking. The weight is balanced over both legs.

The position must not be constrained in any way, but must be one of aggression, alertness, and readiness to go forward for instant attack (Fig. 108).

Reasons

The point of the bayonet is directed at the base of the opponent's throat because that is the most vulnerable part of the body. The rifle is held with both hands to give the greatest strength. The barrel is up, *i.e.*, "not canted," because this is the most offensive way of holding it. The palms of the hands are against the sides of the rifle because in this position the piece is not canted, and also the wrists are not bent in making the parries. The hands are in the positions described because they give the best grip of the rifle and get it well advanced toward the opponent so that he can be reached with a minimum movement of the rifle, at the same time sufficient play is allowed to run him through. The legs are separated as in taking a natural step and meeting with resistance because this is what actually happens to a man in bayonet combat. Separating the feet laterally a few inches gives a man a broader and firmer base. The position is not constrained because if it were the muscles would soon tire and freedom of motion would be lost.

Common Faults

1. Leaning body back.
2. Left arm too much bent, or too straight.
3. Right hand held too low and too far back.
4. Rifle grasped too rigidly, restraining all freedom of motion.

Rest

33. Assume a position of rest in the easiest way possible without moving the feet, and with the rifle, butt on the ground, on the right side of the body (Fig. 109).

High Port

34. From the position of guard, without changing the grasp of the hands, carry the piece diagonally across the body until the left wrist is level with and in front of the left shoulder.

When jumping ditches, surmounting obstacles, etc., the position of the piece is approximately maintained with the left hand alone, leaving the right hand free. The high port is adopted only when actually preparing to assault. At other times the rifle is carried on the shoulder, at the trail, or slung, according to circumstances.

FIG. 109.
REST

Long Thrust

35. Grip the rifle with all your strength and vigorously deliver the point from the guard position to the full extent of the left arm, extending quickly the whole body to the front, butt running along the inside of and against the right forearm. If in making the thrust the right elbow is carried low, so as to clamp the butt between the right forearm and the right side of the body, it furnishes a brace against the point being forced aside.

The leading knee and ankle are well bent, the rear leg braced with the heel raised, the body inclined well forward.

The power of a thrust comes from the right arm, the shoulders, the back, the legs and the weight of the body. The left arm is used more to direct the point of the bayonet. A delivered thrust throws a man off his balance, but in fighting this is instantly recovered by stepping forward with the rear foot. After a man has learned the details of a thrust it will always be delivered while advancing. **The eyes must be fixed on the object at which the thrust is made.**

In making thrusts other than straight to the front, the leading foot should move laterally in the same direction in which the thrust is made.

The long thrust is made at an opponent at a range of about 5 feet from the attacker's eye. It is very important to be able to judge this distance. In advancing on a dummy, men are prone to let the momentum of the body carry the point through the dummy without making the thrust. This must be guarded

FIG. 110.

A, LONG THRUST; *B*, WITHDRAWAL FROM LONG THRUST; *C*, SHORT THRUST

against, as it brings your point forward at the same rate of speed as your body, which is fairly uniform and easily judged. The darting forward of the point at the last instant gives a speed that is harder to judge (Fig. 110A).

Reasons

The rifle is gripped hard because the point, in entering the body, will meet with great resistance. The leading knee and ankle are well bent, the rear leg braced with the heel raised and the body inclined well forward, because in this position the maximum amount of reach and power are obtained in the thrust. The rear foot is always brought forward in order to

preserve the balance, and also because the thrust will usually be made advancing. The eyes must be fixed on the object aimed at in order to secure a hit.

Common Faults

1. Rifle drawn back just before delivering thrust.
2. Elbow and butt of rifle held as high as or against the right shoulder.
3. Eyes not directed at object.
4. Leading knee not sufficiently bent.
5. Body not inclined forward enough.
6. Failure of point to go forward on a straight line.
7. Butt not braced against inside of right forearm.
8. Doing too much work with the arms and not getting the body into it.

Withdrawal from Long Thrust

36. To withdraw the bayonet after a "long thrust" has been delivered, jerk the rifle straight back until the right hand is behind the hip, this without unduly relaxing the grasp of the small of the stock, and immediately resume the "guard" position.

Don't try to do all the work with your arms. Carry the weight of your body to the rear by straightening out the leading leg and straightening the body up at the waist. Yank the piece to the rear with the shoulders and arms. If the leverage or proximity to the object transfixed renders it necessary, the left hand must first be slipped toward the muzzle, and when a pupil reaches the stage of delivering a "thrust" while advancing on a dummy or thrusting ring, he will adopt this method.

After every thrust, make a rapid withdrawal before coming to guard. A quick withdrawal is necessary to get ready to meet another enemy, to prevent the one just stuck from bending your bayonet in falling, and to prevent him attempting to injure you. Men still have fight left in them after you stick them unless you hit a vital spot, but when the bayonet comes

out and the air sucks in and they begin to bleed on the inside they feel the pain and lose their fight (Figs. 110B and 111).

Common Faults

1. Not making withdrawal vigorously enough.
2. Not drawing bayonet back on line of penetration, *i.e.*, letting butt drop.

First Practice, Thrusting at Changing Targets

37. The class, working in pairs, with the instructor supervising, should be practiced in thrusting in various directions, *e.g.*, (1) at the opposite man's hand, which is placed in various positions on and off the body; (2) at thrusting rings, etc., tied on the ends of sticks. This practice must be done without word of command.

FIG. 111.
WITHDRAWAL FROM LONG THRUST AT PRONE FIGURE

Second Practice, Thrusting at Discs on Dummies

38. The men will be taught to transfix a disc or circle painted on a dummy, first from a halt at a distance of about 5 feet from the dummy (*i.e.*, the extreme range of the bayonet), and then, after advancing three or more paces, later increasing the distance and speed as the men progress. The advance must be made in a practical and natural way, and should be practiced with either foot to the front when the thrust is delivered. The rifle must never be drawn back just before making a thrust in a forward movement. The impetus of the body and the forward stretching of the arms supply the maximum force.

The bayonet must be withdrawn immediately after the thrust has been delivered and a forward threatening attitude assumed to the side of or beyond the dummy.

Unless the rifle is firmly gripped, it is likely to injure the

hand. By gripping the rifle as far back on the small of the stock as the comb will permit, the forefinger will be saved from being cut by the trigger guard.

To guard against accidents, the men must be at least 5 feet apart when the practice is carried out collectively.

The principles of this practice will be observed while thrusting at dummies in trenches, standing upright on the ground, or suspended from gallows. They should be applied at first slowly and deliberately, for no attempt must be made to carry out the assault training before the men have been carefully instructed in and have thoroughly mastered the preliminary lessons.

LESSON II

Parry Right (Left)

39. From the position of guard, vigorously straighten the left arm without bending the wrists or twisting the rifle in the hands, at the same time engaging opponent's piece and deflecting it just clear of your body, forcing your body forward to the full extent of your reach. Keep the barrel up, the point threatening the opponent's body, preferably his throat. If the parry right is properly made, it is easy to kill the opponent with the thrust which immediately follows—in fact, the opponent will usually impale himself on your point. In parry left the point is carried out of line with your opponent's body, but can be quickly brought back, as it is nearer this line than the opponent's point. Parry left is followed up at once either with a thrust or a butt stroke to the ribs or jaw. During the parry the eyes must be kept on the point of the weapon being parried, but, having completed the parry, the eyes are instantly fixed on the part of the opponent's body to be attacked (Figs. 112A, B and C).

Fending Off

In addition, practice must be given in fending off the opponent's point with **either bayonet or rifle in any position.**

Common Faults

1. Wide sweeping parry with no forward movement in it.
2. Eyes taken off the point of the weapon to be parried.

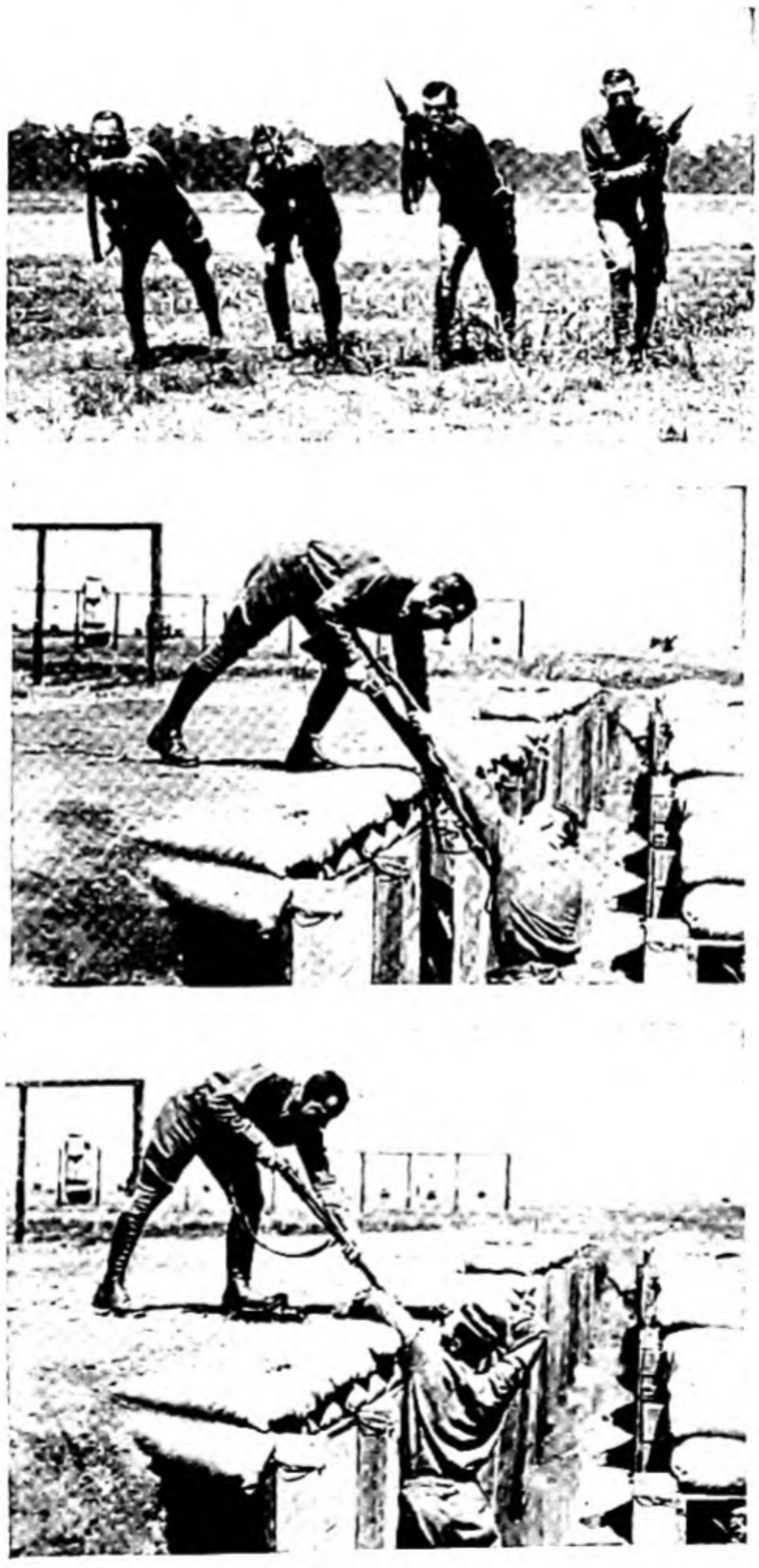


FIG. 112.
A, *B*, AND *C*.—PARRIES

3. Making the arms do all the work and not getting the weight, strength and momentum of the body into the parry.
4. Parry lacking force.

Men should be taught to regard the parry as an offensive movement.

Parries will be practiced with the right as well as with the left foot forward preparatory to the practice of parrying when advancing.

Men when learning the parries should be made to observe the movements of the rifle carefully, and should not be kept longer at this practice than is necessary for them to understand what is required; that is, vigorous, yet controlled, action.

First Practice

The class works in pairs, with scabbards on bayonets; one man thrusts with a stick and the other parries. The "guard" position is resumed after each parry. At first this practice must be slow and deliberate without letting it become mechanical. It will be increased in rapidity and vigor as the instruction progresses.

Care must be taken that the man thrusting with the stick does not swing it into the man with the rifle. If the man makes sweeping movements with the stick, the man with the rifle will probably develop sweeping parries.

Second Practice

Sticks long enough to represent the opponent's weapon in the "guard" position should be attached to the dummies and parried.

The men must also be taught to parry thrusts made at them (1) by an "enemy" in a trench when they are themselves on the parapet; (2) by an "enemy" on the parapet when they are in the trench, and (3) when both are fighting on the same level at close quarters in a deep trench.

LESSON III

The Short Thrust

40. Shift the left hand quickly towards the muzzle and draw the rifle back to the extent of the right arm, this without

unduly relaxing the grasp of the small of the stock, the butt either upwards or downwards, according as a low or a high thrust is to be made; then deliver the thrust vigorously to the full extent of the left arm.

N. B.—The short thrust is used at a range of about 3 feet, and in close fighting it is the natural thrust made when the bayonet has just been withdrawn after a long thrust. If a strong withdrawal is necessary, the right hand should be slipped above the rear sight after the "short" thrust has been made (Figs. 110C and 113).

FIG. 113.
A, SHORT THRUST
B, WITHDRAWAL FROM SHORT THRUST

Short Guard

Left hand grasping rifle just under the stacking swivel, left arm slightly bent, right hand grasping small of stock, stock against the right hip. Point directed at opponent's throat. Body, legs, and feet as in guard.

Practice

41. The principles of the two practices of Lesson I should be observed so far as they apply. By placing a disc on each of the dummies, the "short thrust" may be taught in conjunction with the "long thrust," the first disc being transfixed with the long, the second with the short thrust. On delivery of the "long thrust," if the left foot is forward, the "short thrust" would take place with the right foot forward, and *vice versa*.

"Fend off" will be practiced from the position of the "short thrust."

LESSON IV

The Jab

42. From any position, carry the rifle to an almost vertical position, close to the body, the left hand against the stacking swivel, the right hand at the most convenient place above the rear sight; from this position jab the point of the bayonet upwards into the throat or other vulnerable part of the oppo-

FIG. 114.

nent's body by a quick and vigorous upward movement of the shoulders, stepping in if necessary. The feet should be well separated laterally and the knees bent (Fig. 114).

Reasons

The rifle is carried to an almost vertical position because the jab is used only in close fighting, and when embraced by an opponent, and will usually be made at the throat or armpit. The shoulders are used in making the jab in order to slip through the grasp of an opponent when he is pinning your arms to your side. The feet are well apart laterally and the knees bent in order to give a firmer base.

Common Faults

1. Rifle drawn backward and not held upright enough.
2. Rifle grasped too low with the right hand.
3. Doing all the work with the arms and not putting the whole body into it.
4. Not pressing the rifle against the leg.
5. Jab not vigorous enough and too high.

From the "jab" position men will be practiced in fending off an attack made at any part of them.

The "jab" is employed in close-quarter fighting in narrow trenches and when "embraced" by an opponent.

After any move that carries the point beyond the enemy, if possible, come immediately to the short thrust or jab position; that is, keep your point between you and your enemy.

LESSON V

Methods of Injuring an Opponent

43. It should be impressed upon the class that, although a man's "thrust" has missed or has been parried, or his bayonet has been broken, he can, as "attacker," still maintain his advantage by injuring his opponent with butt stroke or kick.

In individual fighting the butt can also be used horizontally against the opponent's jaw, etc. This method is impossible in trench fighting or in an attack, owing to the horizontal sweep of the bayonet to the attacker's left. In many instances a kick to kneecap or crotch will aid the butt stroke.

A butt stroke or kick will only temporarily disable an enemy, who must be immediately killed with the bayonet.

It should be clearly understood that the butt must not be employed when it is possible to use the point of the bayonet effectively.

Trench or Vertical Butt Strokes

44. **Butt Stroke 1:** Swing up the butt at the opponent's crotch, ribs, forearm, etc., using a half-arm blow, advancing with the rear foot.

Butt Stroke 2: If the opponent jumps back so that the first butt stroke misses, the rifle will come into a horizontal

position over the left shoulder, butt leading. The attacker will then step in with the rear foot and dash the butt into his opponent's face.

Butt Stroke 3: If the opponent retires still further out of distance, the attacker again closes up and slashes his bayonet down on the opponent's head or neck, the latter if he is wearing a steel helmet. In the event of missing, he will then be in the guard position.

Butt Stroke 4: If the point is beaten or brought down, the butt can be used effectively by crashing it down on the opponent's head with an over-arm blow, advancing the rear foot. When the opponent is out of distance Butt Stroke 3 can again be used (Figs. 115A and B).

FIG. 115 A.
VERTICAL BUTT STROKE NO. 1.

FIG. 115 B.
HORIZONTAL BUTT STROKE NO. 1.

Open Ground or Horizontal Butt Strokes

45. **Butt Stroke 1:** Advancing the rear foot, with a half-arm blow swing the butt up at opponent's jaw.

Butt Stroke 2: If the opponent jumps back so that the first stroke misses the rifle will come into a horizontal position over the left shoulder, butt leading. The attacker will then step in with the rear foot and slash the bayonet into opponent's face.

If the opponent retires further out of distance, the attacker will now be in the guard position.

46. Butt Stroke 1 is essentially a half-arm blow from the shoulder, keeping the elbow rigid, and it can, therefore, be successfully employed only when the right hand is grasping the rifle at the small of the stock.

47. Butt strokes can only be used in certain circumstances and positions, but if men acquire absolute control of their weapons under these conditions they will be able to adapt themselves to all other phases of in-fighting. For instance, when a man is gripped by an opponent so that neither the point nor the butt can be used, the knee, brought up against the crotch or the heel stamped on the instep, may momentarily disable him and make him release his hold.

48. When the classes have been shown the methods of using the kick, the rifle butt, and the knee, they should be practiced on the stick, *e.g.*, fix several discs on a dummy and make a thrust at one, use the knee on another fixed low down, jab a third, and so on.

Light dummies should be used for practice with the butt, in order to avoid damage to it.

49. Other methods of injuring an opponent, and special disarming methods are explained in the section on Hand-to-Hand Fighting (page 71).

SUMMARY OF LESSONS

50. **Lesson I:** 1. Short talk on use and spirit of bayonet.

2. Explain vulnerable parts of body.

3. Take class to withdrawal boards and show them the necessity for a strong jerk in withdrawing. Then let class practice same sharp jerk on withdrawal from dummy.

4. Fall class in. Explain and cause them to take the usual formation for instruction. Demonstrate guard. Class practices this while instructor corrects faults.

5. Demonstrate high port from guard. Advancing in guard position short charge, quickening exercise.

6. Demonstrate long thrust, getting full reach, withdrawal and return to guard. Class practice at will, slowly at first, then increasing speed, instructor correcting faults. Repeat at dum-

mies, advancing long thrust at dummies, slipping left hand up to withdraw. From now on all long thrusts will be made while advancing, the left hand being slipped up for the withdrawal.

7. Thrusting at ring while advancing, hand slipped up for withdrawal as at dummies and either foot being brought up, if necessary, to obtain movement of the hand. First demonstrated by instructor; then done by the men, working in pairs, as master and pupil, and correcting each other's faults.

8. Thrusting at hand, by signal. Same as 7.

Lesson II. PARRIES. 9. Review Lesson I.

10. Demonstrate parries. Have class execute; instructor

FIG. 116.
ATTACKING WITH TRAINING STICK

correct errors. High and low parries, taught from trench and parapet.

11. Master and pupil, parries by signal.

12. Man with rifle parry thrust from training stick. Thrust made very slowly at first.

13. With training stick, parry thrust made by charging opponent.

NOTE.—Attacker starts at high port, then comes to guard, and when within about 5 feet of defender removes right or left hand, according to whether attack is made on left or right side (Fig. 116).

14. At dummies—advance, parry stick, and thrust (training stick attached to dummy to represent enemy's weapon).

Lesson III. Short Thrust. 15. Review previous lessons.

16. Explain when used. Demonstrate at two dummies placed in suitable positions. (This should be done by instructor advancing, making long thrust, slipping left hand up and withdrawing. He is then in short-thrust position, and will deliver short thrust, advancing rear foot.)

17. Advancing long thrust; withdraw, slipping up left hand; advancing, short thrust; withdraw, slipping up right hand under left. At hand by signal; at thrusting ring and at dummies.

18. Fend off from short-thrust position.

Lesson IV. Jab: 19. Review previous lessons.

20. Explain when used. Demonstrate at dummies. (Instructor advances, makes long thrust, withdraws; makes short thrust, withdraws; lowers butt and from this position delivers jab, advancing rear foot, if necessary.)

21. Advancing long thrust, short thrust, and jab by hand signal, at thrusting ring and at dummies.

22. Fend off from jab position.

Lesson V. Butt Strokes, etc. 23. Review previous lessons.

24. Explain and demonstrate vertical and horizontal butt strokes, using dummies.

25. Butt strokes practiced by hand signal, at padded end of training stick and at dummies.

26. Toe to knee, heel to instep and knee to crotch, using padded end of stick.

27. Demonstrate disarming tricks, bone-breaking holds, etc.

51. Having completed the five lessons as above described, the recruit is ready to begin the assault training, reviewing each day, however, the movements of the recruit course.

EXERCISES USED IN OBTAINING GOOD DIRECTION AND QUICKNESS

Circle Exercises, Hand Parries, etc.

52. (a) At the command "Form circle," the pupils, not more than ten in number, form in a circle, facing the trainer with an interval of about three paces, at the position of "guard,"

bayonet scabbards on. The trainer thrusts in varying order with the training stick at the pupils, who "parry" from the position of "guard," "short guard," and "jab," and thrust or rush in and jab at trainer, who retires rapidly.

(b) **Face the pupils about:** At a touch from the "training stick," the pupil whirls about and attacks the thrusting ring with the thrust or jab, as the distance between his point and the stick indicates. If the ring is holed, the withdrawal is made and the position of "guard" resumed. If the first effort is a miss, the pupil will come on with "short thrust" and "jab" until successful.

If the trainer presents the padded end of the stick, the pupil makes butt stroke one at it. If this is a miss, he comes on with butt stroke two, etc., until he hits the padded end. As soon as he hits it he resumes the guard, facing out. To practice the pupil in all the butt strokes, the instructor jerks the stick away a short distance just before butt stroke one; hits it, causing the pupil to miss and come on with butt stroke two. Just before butt stroke two hits the stick, the trainer again jerks it away, causing the pupil to miss and come on with a slash.

(c) Men in pairs, one with rifle in guard position, the other on either side offers the ring or padded end of the stick in varying positions in both front and from behind. The man with the rifle attacks the stick as already laid down in paragraph (b).

(d) To practice "long thrust," "short thrust," and "jab" against an opponent:

One line of men, with bayonets and scabbards placed at the long thrusting distance before another line of men without arms.

The armed men make a long thrust, stepping in; at a hand signal made by the unarmed men, the latter step back and with the other hand fend the thrust, grab and hold the bayonet to give the withdrawal the necessary resistance. At a second signal the attack is continued by the short thrust, stepping in,

the retreat and fend repeated. The two men, now being at close quarters, a signal for "jab" is made, the defender grabbing the bayonet and resisting the stroke.

FIG. 117.
A, *B*, AND *C*.—DISENGAGE

The fend should not be made with the hand indicating the point of attack. The signaling hand should remain in place as a point at which to aim. The signal should be made with the hand on the side of the body at which the attack is to be made. In this way the bayonet is quickly pushed outside the line of the body with the other hand.

Wooden Rifles and Personal Combat

53. The wooden rifle, like boxing and wrestling, introduces into the training the most important element of personal contact, without which the true fighting spirit cannot be properly developed. The work with the wooden rifles is very slow and easy at first, the men gradually working up speed until they come together at full tilt. Gloves, masks, and plastrons will always be worn, and the instructor is responsible for the prevention of serious accidents. Men begin this combat practice by both standing still; then one advanced at a walk, the other standing still; then both advancing at a walk; then one man

running, the other standing still, and, finally, both men advancing at a run.

Disengage

Drop the point of the bayonet slightly with the left hand and bring it up on the opposite side of the opponent's piece, coming in at the same time. The point should go forward about a foot in the act of passing under the enemy's rifle (Figs. 117-A, B, and C). (NOTE: If the opponent's point is held low, bring your piece to the opposite side by passing it over his. This is the "Cut Over.")

Combat Practice—Rushing

54. Place two men 20 yards apart in the "guard" position. At signal, they charge each other. Unless a clean, hard hit is made in 20 seconds, they will be separated and a hit counted against each. Never allow men to fight for more than one hit in any assault.

Occasionally require men to hold the piece at "short-guard." This compels in-fighting.

If, during above rushing, there appear any of the following mistakes, fall out the responsible men and let the trainer work with them individually until they recover their form. All tendencies to wildness must be rigorously checked:

(a) Flagrant loss of aim or balance.
(b) Light tapping touches.
(c) Hitting with the side of the bayonet.
(d) Pushing with the rifle.
(e) Useless parries or movements of the rifle.
(f) Slowing up just before the shock.

Rushing in Groups

55. (1) Let one man receive the assault of two or three others, placed one behind the other at 10 or 15 paces distance.

(2) Let one man receive the assault of two others at 6 paces interval, converging upon his flank, at 20 paces.

(3) Let one man receive the assault of two others at 6 paces interval, converging upon him as they come in.

(4) Have men fight when one is in the trench and one on the parapet, and when both men are in a narrow trench.

(5) Vary these formations in any way that may appear valuable and instructive.

Team Fighting

56. After the men have attained proficiency in individual combat, squad will be opposed to squad and platoon against platoon, as in the chapter on Assault Practice, men being substituted for dummies.

Trench Combat

57. In trench combat, when you come to a turn in the trench, make a quick vault in the next sector of the trench. As you land in the next sector, have your rifle in the guard position (on the right side if the trench turned to the left, on the left side if it turned to the right), ready to beat your opponent's weapon aside or make a quick thrust. There is nothing to be gained by looking first, and it insures your enemy being ready for you. If you come to a place alone where one trench enters another about at right angles, it is well to look first, as one man has no show if there is an enemy on each side of the entrance. If you find one side clear, vault in the other without delaying to look. If two men approach such a trench, say, through a communication trench, they approach as nearly on a line as the width of the trench will permit. One vaults to the right and the other to the left without stopping to find out first whether the trench is occupied.

Assault Practice

58. This must approximate as nearly as possible the conditions of actual fighting and is not to be undertaken until the men have received thorough preliminary training and have acquired complete control of their weapons.

In any assault the attackers are necessarily subjected to severe physical exertion, as well as to a great nervous tension, while the defenders are comparatively fresh. Therefore, quick

aim and good direction with the bayonet when attacking, while moving rapidly or surmounting obstacles, accurate and vigorous delivery of the thrust, and clean, quick withdrawals are of the greatest importance, and need the same careful attention and constant practice as are devoted to obtaining efficiency with the rifle.

In the assault practice the charge brings the man to the first trench in a comparatively exhausted condition, and the accuracy of the aim is tested by the disc, which can only be "carried" by a true and vigorous thrust and a clean withdrawal.

For this practice the men should be made to begin the assault from a trench 6 or 7 feet deep, as well as from the open, and they should not cheer until close up to the "enemy."

Trench System for Assault Practice

59. A reproduction of a labyrinth of trenches, with dummies in the "dugouts" and shelters between the trenches, forms an excellent assault practice course. Assaults should be made from all four sides in order to give variety. The edges of the trenches should be protected by spars of baulks anchored back, otherwise constant use will soon wear them out. Cinders scattered over the course will prevent the men from slipping. If gallows cannot be erected, sack dummies should be placed on tripods or on end, as well as lying in trenches or on the parapet, with soft earth, free from stones, under them.

Combined Tactics

60. If a combined bullet and bayonet course is to be had, an ingenious instructor can arrange some very interesting and practical exercises by combining the tactics of the assault with those of other branches of infantry training.

Training Soldiers Daily Practice

61. One-half hour a day, on at least five days a week, should be devoted to the practice of bayonet fighting by trained soldiers. By this daily practice accuracy of direction, quickness, and strength are developed, and a soldier is accustomed to using

the bayonet under conditions which approximate actual fighting. This half-hour will be given over largely to assault training, the instructor, however, going back to a short review of any part of the recruit course whenever he deems it necessary. This practice includes:

(a) Bayonet practice.

(b) Individual combat.

(c) Firing at moving, bobbing, and disappearing targets, and rapid fire.

(d) Counter-charging.

(e) Combination of musketry, bayonet, and grenade.

TACTICS OF THE BAYONET COMBINED TRAINING

62. It has already been said that the bayonet is one of the most important weapons of the infantry. Therefore, in order to arrive at the correct use of the bayonet, we must bear constantly in mind just what tasks the infantry is called upon to perform. The artillery, with its heavy, long-range guns, is largely responsible for the process of "digging in," but it certainly cannot be expected to shoot the enemy out of position, once he is strongly entrenched. Only the infantry can gain ground, and, similarly, no position is lost until its defending infantry retires.

The sound, well-established tactical principles of the employment of infantry are today unchanged, but the recent European War has changed somewhat the application of those principles. Two long opposing lines, with flanks absolutely secure, make any large enveloping movement impossible, and any attack, great or small, local or covering great areas, must be purely frontal.

The underlying idea of all infantry tactics is to close with the enemy as soon as possible and with all the units well in hand. The ideal conditions would be those making possible a quiet, quick, and orderly advance without halting to open fire, but this is impossible with the highly developed weapons of today, and even though some of the attacking infantry managed to close with the enemy, there would be too few left for

a bayonet fight. Therefore, in order to make a successful assault, the infantry must move up under covering fire. To provide this protecting fire, it has equipped itself with the pistol, bayonet, and high-powered rifle, the 1-pounder, trench mortars, the effective hand and rifle grenades, and has called to its assistance its supporting arm—the artillery. The enemy, attempting to protect himself from the terrific fire that he knows will precede the infantry attack, has prepared deep dugouts and bombproofs, in which he often hides until the last possible minute.

Despite the fact that all of the above preparations are simply to give the bayonet man a chance to use his weapon (and to kill as many of the enemy as possible while doing it), it follows that fire action is more important than shock action, for without the fire the shock would be impossible. Therefore, the bayonet men must know how to shoot their rifles and to coöperate with the machine gun, the grenade, and the artillery, and must be so formed that during the assault they can deliver an effective rifle fire, present a solid front to the enemy in the bayonet charge, and be close enough together to furnish mutual, moral and physical support.

The wave attack that has been used so much in France was produced in order to furnish the greatest amount of mutual support among automatic riflemen, grenadiers, the 1-pounders, and riflemen, and at the same time to allow the greatest number of riflemen (bayonet men) to close with the enemy in the best formation possible. All of the conditions so far discussed make it imperative that the assaulting troops be perfectly organized, and that they follow their covering fire (barrage) as closely as possible.

As indicated above, the defenders are forced to retire to their dugouts, where they may easily remain too long. An attack has the best chance of succeeding when it can meet the defenders emerging from their dugouts, but if the assaulting troops are met by the defenders on their own parapet, the assault will probably fail. Thus a few seconds will turn the scales, and for that reason the assault must keep moving for-

ward. If firing is possible, it must be done from the shoulder or hip while advancing. The men must rise from the starting trench as one man and advance as one man. Thereafter the advance continues at a steady walk, except for the last 30 or 40 yards before reaching each trench, when the line breaks into a slow double time, finishing up the last few yards at a run and without yelling. This favors the surprise element. Once in the enemy's trench, shock action is impossible, and it is merely a question of our ability and will to use the bayonet.

The bayonet man, when working in the trenches with grenadiers, must cover their advance, prevent them from being rushed, and clear the way for further progress, never forgetting, in his desire to use the bayonet, that he is also master of the bullet. In the actual mêlée, however, the enemy must be killed with the bayonet, since the bullet would probably be as dangerous for friend as for foe.

Darkness or surprise effect sometimes replaces the covering fire. Surprise is always of great assistance to the bayonet man, and at night all available cover can be easily used, but long, careful training and frequent rehearsals of the particular attack are necessary to prevent confusion during night operations.

To sum up, the bayonet is only an offensive weapon, and its users must move over short distances straight up to the enemy's position and without halting to fire. All the other details of an assault are to give the bayonet man an opportunity to close with the enemy, and the success of an attack depends upon, first, whether or not sufficient men can reach the enemy, and, second, having closed with him, whether or not they are imbued with the spirit of the bayonet.

Any number of excellent combined problems may be worked out. The following are some that will prove particularly interesting and instructive. In the solution of these problems a trench system must be had, umpires used, and often it will be necessary to arrange distinguishing marks for opposing sides:

1. A detachment of Reds is ordered to attack a certain point in a quiet Blue front line trench and capture one or more prisoners.

2. The conduct of a Red detachment while driving a Blue detachment down Blue's communication trench to his second line trench.

3. A Red patrol of bombers and bayonet men in No Man's Land at night unexpectedly encounters a Blue patrol.

4. Reds have assaulted and taken a Blue position, and are engaged in consolidating it when Blues counter-attack:

(a) Reds have plenty of ammunition.

(b) Reds have no ammunition.

NOTE: Reds may or may not have automatic rifle.

5. Defending Reds to meet assaulting Blues with a counter-charge.

CHAPTER X

Physical Efficiency Tests

The fact that a man passes the physical examination required for admission to the army indicates simply that he is good human material and suffers from no obvious physical handicap.

The demands made by modern warfare for body control, agility, physical strength, and endurance are extremely severe. Every means should be employed to stimulate men to strive for a high standard of physical efficiency, and to maintain this high standard after it has been secured.

Physical efficiency tests enable the Commanding Officer to secure information about the physical condition and ability of the individual recruit and of his rate of progress during training. They enable him also to check up on the condition of the trained soldier by periodical tests, and to grade platoons and companies by the use of charts showing the percentage of the membership of each outfit that has attained the various grades of physical efficiency. Such charts and contests encourage the spirit of competition among the units in the matter of physical efficiency and aid in the development of a healthy *esprit de corps*.

The standard test is composed of five elements; four simple events to test skill and ability in running, jumping, climbing and throwing, and a fifth event which is a combination of the foregoing. The test is simple, not only because the component parts represent the fundamentals of physical activity, but also because the test as a whole is easy to conduct with large numbers. Events have been selected which will demonstrate to the commanding officer and to the recruit himself just how his physical ability compares with these standards.

The events are: The 100-yard dash, the running broad jump, a fence climb, a grenade throw for distance and accuracy, and a run over a standard obstacle course. The

minimum requirement for each of these tests is within the reach of the average man who is physically fit and who has had some athletic experience, or who has led an active life physically. The standards are:

14 seconds for the 100 yards.

12 feet for the running broad jump.

Ability to climb an 8-foot smooth fence.

30 yards for hand grenade throw. (Throw must land within a designated area 10 feet square.)

30 seconds for obstacle course.

These tests will be administered under **three** sets of conditions and the soldiers who qualify under each of these conditions will be graded accordingly.

The **third grade** will be those men who pass the test in service uniform without blouse and without equipment.

The **second grade** will be those men who qualify in service uniform without blouse, but **carrying a rifle.**

The **first grade** will be those men who qualify in light marching equipment without blouse and **carrying rifle,** and who in addition meet the requirements outlined in "C b" below.

RECOMMENDATIONS FOR THE USE OF TESTS

A. Every recruit should be put through the physical efficiency test as soon as possible after enrollment. If he fails to pass the standards prescribed, he will be given a second test after one month's training. If he fails a second time to qualify in Grade 3, his training should be modified and intensified so as to correct the deficiencies.

B. Those recruits who qualify in Grade 3 during the first month should be, after a month's training, put through the same test with the exception that each will carry a rifle to qualify in Grade 2.

C.—a. Those who qualify in Grade 2 should at the end of the second month of training be put through the same tests in light marching outfit, without blouse, including rifle. Those who pass the tests under these conditions will be **given credit toward** a First Grade physical certificate.

b. During the third month of training the soldier will be required to demonstrate his knowledge of the bayonet drill, hand-to-hand fighting, and his ability to acquit himself creditably in a three-round bout of boxing. The boxing contest must not be judged alone by the ability displayed as an expert boxer, but much weight should be given to the fighting spirit, determination, and willingness and ability to give and take punishment, which are displayed.

METHODS OF CONDUCTING PHYSICAL EFFICIENCY TESTS

1. For small units the men can be tested individually.

2. For larger units (company or battalion) the testing can be done on a mass basis. The following methods are recommended:

A. 100-Yard Dash: The course should be marked off on the parade ground. At the finish line there should be four judges, two on each side. A stout rope should be laid on the finish line. The timer should fire a pistol at the termination of 14 seconds, and at this signal the rope should be lifted by the two judges at each end.

Those runners who have crossed the rope before it is lifted qualify; likewise, those who are caught back of the rope fail to qualify. The judges should be prepared to run down the track ten or fifteen yards in order to prevent injury to the men who are running hard and who are caught behind the rope.

B. Running Broad Jump: The jumping pit should be at least fifteen feet wide, and a space seven feet wide should be dug up to a depth of at least six inches, beginning at a point eight feet beyond the take-off board. The pit should be wide enough to permit two or more men to jump at one time. It should have a 4″ x 4″ sunk level with the surface of the ground to serve as a take-off. The 12-foot distance should be marked by stakes driven into the ground on each side of the pit so that individual measurements will not have to be taken excepting in cases where the jump is very close. Jumper overstepping take-off is disqualified.

C. The Fence Climb: The fence should be eight feet high, built of heavy boards so placed that there will be no cracks between them to afford finger or toe holds. The boards should be nailed against trees or against stout posts so as to give rigidity. The top edge of the top board should have the corners slightly rounded off so as to avoid injury to the hands. The fence should be as long as possible, so as to accommodate a large number of men at a given time. The ground on the

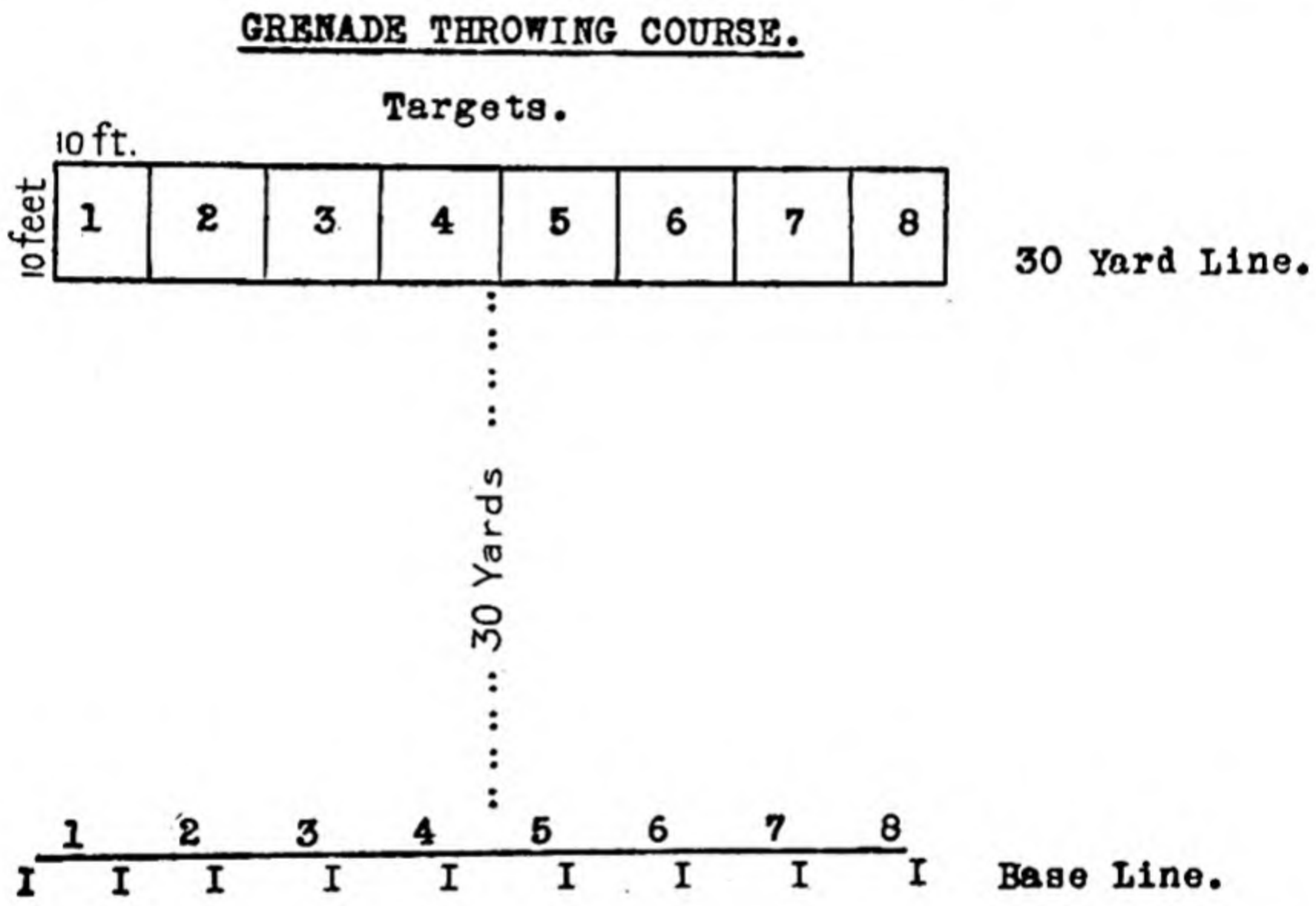
FIG. 118.

far side should be loosened up and the use of props and bars should be avoided on account of possible injury to men dismounting from fence (Fig. 118).

D. The Grenade Throw: A base line from which the throws are made should be marked on the parade ground and a second line should be laid off parallel to and thirty yards in front of the base line to judge distance of throws. Another parallel line should be laid off ten feet beyond the 30-yard line. The space between the 30-yard line and the 10-foot line should be divided into sections 10 feet square, which will serve as targets. Each target will be given a number. The base line will be divided in 10-foot sections and will be given correspond-

ing numbers so as to indicate clearly at which target each man is to throw. The lines required may be made of whitewash or indicated by furrows scratched into the ground, or by ropes. (See diagram below.)

E. 100-Yard Obstacle Race: Course arranged as indicated below. Sprint 10 yards to a 3-foot hurdle; sprint 15 yards to a smooth-wire entanglement 10 feet wide. (Arms must be folded while crossing entanglement. Hands may not be



used. Fig. 119.) Sprint 15 yards to a ramp 5 feet high immediately joining which is a trench 10 feet wide and 3 feet deep; sprint 15 yards to plank bridges 1 foot wide (over a shallow trench 20 feet wide) (Fig. 120). Sprint 15 yards to an 8-foot smooth faced fence; sprint to finish (see Fig. 118)

METHOD OF CHARTING THE PHYSICAL EFFICIENCY OF A UNIT

1. Recruit Units (CLASSES 3 AND 2): The number who qualify in a given event divided by the total strength of the unit gives the percentage of efficiency of a unit in that event.

The average of the percentages in the five events gives the

physical rating for the unit in either the third or second grade according to the conditions under which the events were performed.

FIG. 119.

2. **Trained Units** (CLASS 1): The rating of a unit on the basis of the full test will be found by dividing the total number of men who qualify in the five events by the total strength of

FIG. 120.

the unit under the conditions laid down for the Grade 1 test. No man's performance in the Grade 1 test shall be counted until after he has satisfied the requirements stated in paragraph "C-b" on page 144.

RECORD CHART

PHYSICAL EFFICIENCY TESTS

Date ———— GRADE 3 (or 2)

NUMBER OF MEN WHO QUALIFY IN EACH EVENT AND THE PERCENTAGE OF THE TOTAL STRENGTH OF UNIT

Unit	Strength of Unit	100 Yards	Running Broad Jump	Fence Climb	Obstacle Race	Grenade Throw	Efficiency Rating of Unit
Co. B	250	110–44%	83–33.2%	190–76%	93–37.2%	168–67.2%	51.52%
Co. D							

RECORD CHART

PHYSICAL EFFICIENCY TESTS

Date ———— GRADE 1

NUMBER OF MEN WHO QUALIFY IN EACH EVENT AND THE PERCENTAGE OF THE TOTAL STRENGTH OF UNIT

Unit	Strength of Unit	Bayonet Drill	Hand-to-Hand Fighting	Boxing Bout	Athletic Events in Physical Efficiency Test	Efficiency Rating of Unit
Co. B	248	Pass	Pass	Satisfactory	110 men	47.58%

CHAPTER XI

Group Games and Mass Athletics

NOTE: This Section supplements Section VI, pages 35 to 39 which describes selected games that are adapted for use as a part of the formal work in a drill period.

CLASS 2. GAMES ADAPTED FOR USE IN THE SUPERVISED ATHLETIC PERIOD

The supervised athletic period should be a part of each day's program. When possible, this period should come so that it will end not less than one-half hour before retreat. This will permit the men to go directly to the showers, which makes a desirable finish for the work.

The physical training officer should constantly keep in mind that the **prime purpose** of the supervised athletic period is to give the soldier the **educational value** of participating in different types of athletic contests. The **recreational** value is inherent in such activities and will be realized in any well conducted program.

Group games may be organized, using platoon or even the whole company as a basis. The war strength of these units, however, is too large for effective use in many of the games. Better results can be obtained by dividing the unit into squads of ten to thirty men each, according to the type of game selected. Generally speaking, twenty men to a team or group, as the case may be, is the number that will give the most satisfactory results. Several of the games may be played with as many as forty or fifty men participating as a unit. A trained officer with non-commissioned officer assistants can handle successfully from ten to fifteen sections at a time.

In supervising games, the physical training officer should place a non-commissioned officer in charge of each team to act as a leader. The leaders act as directors and coaches and are

responsible for the fair play of their teams. The leaders should stimulate enthusiasm and effort rather than take part actively.

Where there are two or more groups engaged, the most practical way of teaching a new game is to arrange them about the playing field in the formation needed to play the game and then demonstrate fully with one of the central groups so that all of the men as well as the group leaders can see.

Certain considerations must be observed by the officer who wishes to use athletic games as a part of the formal drill program or during the supervised athletic period, in order to secure the best results. For example:

1. He should never attempt to put on a game with which he is not entirely familiar.

2. He should be sure that any equipment needed is on hand and available for immediate use.

3. Nothing is more conducive to successful work than foresight and intelligent preparation, and orderly, business-like conduct.

4. In starting a new game, be clear, talk little; demonstrate.

5. Insist on fair play—enforce the rules.

6. Develop the spirit of competition.

7. Put "pep" into the games—make them snappy. Keep them going.

8. No man should be allowed to drop out without permission.

9. To get the best results there must be discipline and good order.

10. Men finishing a relay race or falling out of an elimination contest should immediately reform in some formation. Keep order.

11. Do not let a game drag out. Stop it while the men still want more.

12. There are obvious variations which can be introduced in many of the games. These variations should be used from time to time in order to keep up the interest and enthusiasm.

13. With a reasonable injection of enthusiasm any game can be conducted successfully.

TAG GAMES

(In all tag games the playing area should be limited to about 100 feet square, or less, varying with the size of the group.)

10. Hook Arm Tag. No Equipment Needed. Formation: Circle facing in. Players are paired, inside arms hooked at elbows, outside hands on hips. Two men in center; one is "It." The other is being chased by "It." The chased man runs about the circle either inside or out, and may hook the elbow of any player; thus making a line of three, and the out-

Fig. 121.

side man of the original pair becomes the man chased. If "It" tags man chased he then becomes the chased one, and the one tagged becomes "It" and game continues (Fig. 121).

11. Fence Tag. No Equipment Needed: Played only where there is a fence, trench, narrow creek, or something that may serve as a good dividing line. Played as ordinary tag except that "It" must be on same side of obstacle as man he tags. A man may not be tagged while he is crossing the obstacle, but the man pursued may not "roost on the fence" to evade "It."

12. Three Deep. No Equipment Needed, Formation: Double circle facing in; the outside circle covering off the inside circle. Each pair should be six feet apart. One man is "It." "It" chases another man, who may jump in front of any one

of the men in the inside circle. He is then safe. The player in the rear of the one he jumped in front of is then the third party and "It" must chase him. The player being chased and "It" must keep on the outside of the circle except when jumping in front of player in inside circle. Player when tagged becomes "It," and must chase the one who tagged him.

13. Team Tag. No Equipment Needed. Formation: Players scattered promiscuously within prescribed area. At signal, the player who is "It" chases runners. When "It" tags a runner the latter joins hands with him and the pair chase the runners. Runners tagged join either end of the line. Only

Fig. 122.

players on the end of the line can tag. Game continues until all are tagged. Players running out of bounds join the "It" line (Fig. 122).

14. Mount Tag. No Equipment Needed. Formation: Players scattered promiscuously within playing area 100 feet square. Played as ordinary tag except a man is immune to tagging if he is mounted on some other player or some player is mounted on him. More than one may mount the same man.

15. Nest Tag. No Equipment Needed. Formation: Double circle; outside circle facing in; inside circle facing out, covering off outside circle. Players opposite each other hold hands forming a basket. One man is "It." He chases another man who may duck under the arms of any pair of men about

the circle. The player being chased may face either man upon rising between the arms. The player at his back releases hands and becomes the party chased. The man in front takes the hands of the new man forming the basket. If the chased man is tagged he becomes "It" and chases the other man.

16. Maze Tag. No Equipment Needed. Formation: From a column of squads have players extend to left and right until hands just touch when lifted to sides. Have the group right face and extend as before. Two players are placed at side of group—one is "It" and the other chased by "It." The game leader has the players raise hands to sides and hold them there. He then calls "Left Face," "Right Face," etc., at will. "It" and the party he is chasing stay in lanes formed by raised hands. If "It" tags runner the two reverse positions. Change players for "It" and runner, often.

17. Cross Tag. No Equipment Needed. Formation: Players scattered promiscuously within prescribed area. Played like ordinary tag with the exception that anyone crossing between the runner and "It" becomes the runner. If "It" tags the runner, "It" becomes the man chased.

18. Hit-the-spot Tag. No Equipment Needed. Formation: Players scattered promiscuously within a prescribed area. Played like ordinary tag with the exception that every player, including "It," tagged must hold one hand on the part of his body where the last man tagged was touched.

19. Crossing No Man's Land. No Equipment Needed. Formation: Single line. Played by any number of players from ten to a battalion. Playing space between two parallel lines about 25 yards apart. "It" takes position in center of playing area. At signal all players charge to the opposite line. All players tagged immediately become "It." Those not tagged try to charge back to the opposite base. Game continues until all have been tagged.

Note: At discretion of officer in charge the "Its" may be required to catch and hold men momentarily. When the game is played in this way men should not be allowed to grasp the clothing.

CIRCLE GAMES

20. Bull in the Ring. NO EQUIPMENT NEEDED. FORMATION: Group forms in a circle holding hands. One man who is termed the "Bull," is placed in the center. If there are more than twenty men in the ring have two "Bulls." The "Bull" tries to break out by charging the ring so the clasped hands are forced apart. If the "Bull" gets out the players try to catch him. Player successful in catching the "Bull" becomes "Bull" and game continues.

21. Cat and Mouse. NO EQUIPMENT NEEDED. FORMATION: Circle, holding hands. "It" or the "Cat" is inside and the "Mouse" is outside of the circle. At signal "It" attempts to tag the "Mouse." If he does the player in the circle nearest the point of tagging becomes the "Mouse" and the original "Mouse" becomes "It." The men in the circle should attempt to prevent "It" from getting outside of circle to tag the "Mouse." If he does break through let the "Mouse" in and keep the "Cat" out. "Cat" and "Mouse" should be replaced by players from the circle frequently.

22. Milling the Man. NO EQUIPMENT NEEDED. FORMATION: Groups of about fifteen men form small circle sitting close together facing in. One man is "It" in circle. With arms to sides he stiffens his body and simulates a dead man falling; men in circle prevent his falling to ground, pushing him back and forth. If he falls, the man responsible becomes "It." Body must be kept rigid to get best results (Fig. 123).

23. Swat to Right. EQUIPMENT NEEDED: One or more soft swatters. FORMATION: Circle, facing in, shoulder to shoulder, hands behind back. One man, carrying swatter, runs around outside of circle and places the swatter in someone's hand. The man receiving it immediately hits the man at his right. The man who is hit runs around the circle until he is back to his starting position. The player with the swatter follows runner and swats him until he is in position. The player with the swatter then runs on and places the swatter in some other player's hand. The game can be varied by the use of two or more swatters simultaneously.

24. Slap Jack. No Equipment Needed. Formation: Circle. "It" runs around the outside of the circle and slaps any one of the men on the back. The man slapped becomes "It." He chases the man who slapped him in the reverse direction around the circle. If "It" touches the man chased before he gets back to the gap, the chased man becomes "It" again. If not, "It" slaps someone else on the back, etc.

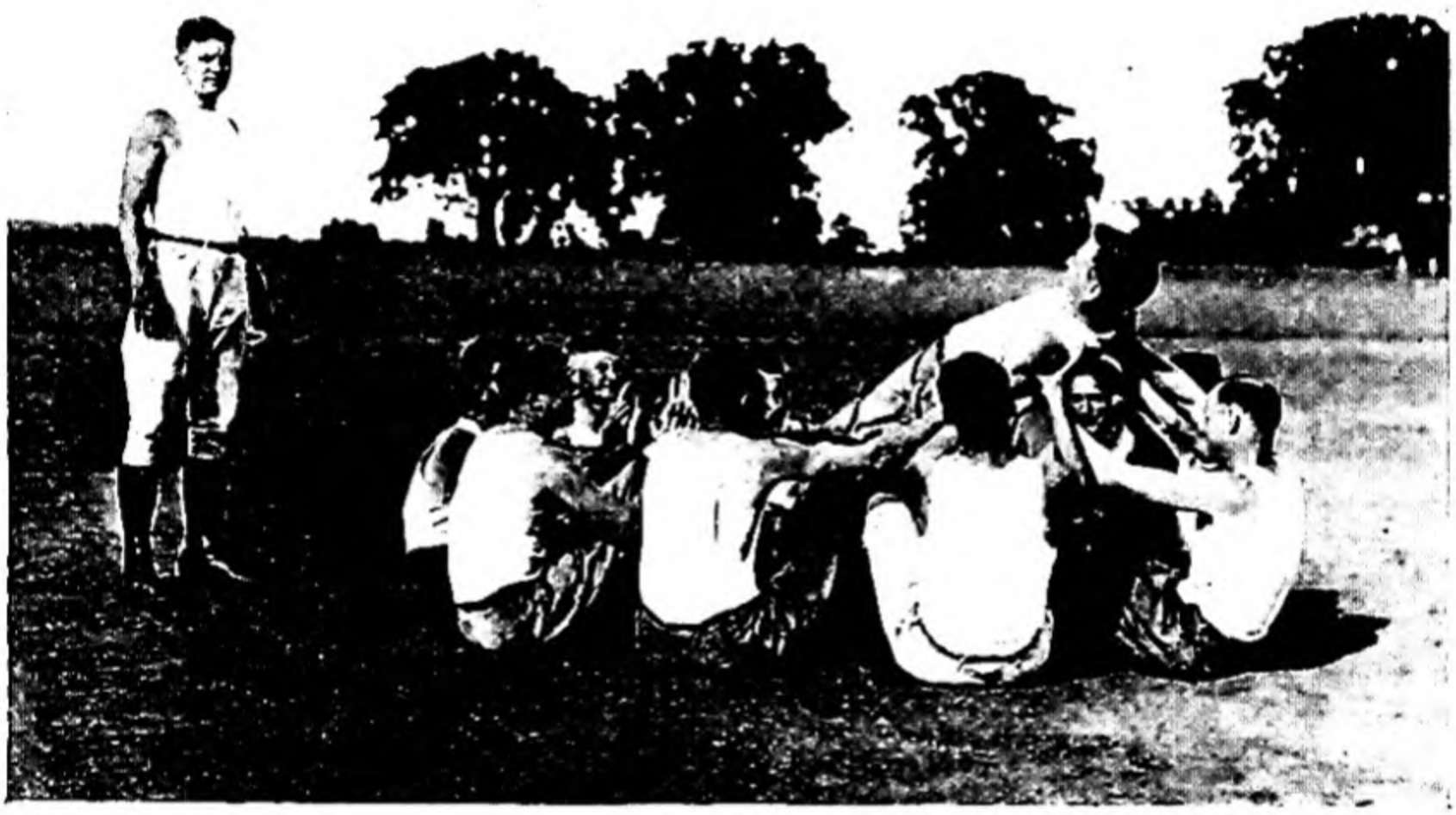


Fig. 123.

25. Jumping Circle. Equipment Needed: Light rope about 15 feet long with soft weight on one end. Formation: Circle about twenty feet in diameter. One player stands in center holding a light rope with a soft weight on one end. Player in center swings weight around about knee high so that players in circle have to jump it. Players who fail to jump drop out of circle. Continue elimination until entire group is put out. The last man out is the winner.

26. Circle Tag. No Equipment Needed. Formation: Draw a circle about four feet in diameter on the ground. Players form a ring facing in about circle with arms about shoulders. At signal the players attempt to draw other players

into circle. Any player who steps into circle withdraws from game. Game continues until one man is left.

27. Six-Day Bicycle Race. EQUIPMENT NEEDED: Four sticks for corner posts. Stake off field at four corners so that running about stakes will represent a track. Players are paired off—each pair representing a team. Players line up across track after drawing for places. At signal, one player mounts hips of his partner who runs forward around track. Players may exchange places (as rider and horse) at will, and as often as they like. Race may be made two laps, three laps, four laps or more in length, depending on the distance around the track. Two hundred yards represents a good race.

28. Circle Race. NO EQUIPMENT NEEDED. FORMATION: Players distributed around a track equal distance apart (ten or thirty feet varying with the number playing). At signal each player runs forward trying to pass on the outside of the runner next in front of him, tagging as he passes. Any player tagged in this way drops out of the race. The tagger runs forward to tag the man next to his front, etc. Race continues until all are out but one.

MISCELLANEOUS CONTESTS

29. Follow the Leader. NO EQUIPMENT NEEDED. FORMATION: Column of files. Place someone who is more or less athletic in the lead. He starts off at a dog trot, the men following. The leader undertakes any reasonable hazard he can find, such as jumping ditches, vaulting fences, clambering over tree limbs, etc. Men who fail to do anything that the leader sets drop out. If the leader fails on anything he attempts he is forced to withdraw. Only one attempt is allowed at a hazard. Game continues until all are out but one. The officer in charge should change leaders occasionally.

30. Lock Step Race. NO EQUIPMENT NEEDED. FORMATION: Column of files. Front rank runs against rear rank. Men close in and put their arms around the waist of the man ahead. At the blast of the whistle the men run 50 yards without breaking rank.

31. Caterpillar Race. EQUIPMENT NEEDED: As many (tent) poles 12 feet long and 1½-foot thick as there are squads in company. Each squad will straddle the pole and grasp it with both hands. No. 1 of each squad on starting mark. At starting signal, each squad will run to finish line which should be about 75 yards away. Any man letting go of pole with either hand disqualifies his squad (Fig. 124).

32. Rope Tug of War. EQUIPMENT NEEDED: One 1½-inch rope (60 to 150 feet) varying in length with number competing. FORMATION: Competing platoons line up facing the center along the rope. A handkerchief or piece of adhesive tape should be securely wrapped around middle of rope. A well defined line should be marked parallel to starting line and 6 feet from it on either side. The rope should be laid on the ground with the middle tape on the starting line. All contestants stand along rope not nearer than 8 feet to center tape, **with hands raised over their heads,** thumbs locked. At starting signal men pick up rope and pull. Team pulling middle of rope over its own 6-foot line wins. If neither team has pulled middle of rope over its 6-foot line at expiration of three minutes the team having middle of rope on its side of starting line wins. No knots or loops may be made in the rope excepting that the anchor (end man) on either team may wrap rope around his body. Holes may not be dug in ground with feet or otherwise until after starting signal is given (Fig. 125).

FIG. 124.

NOTE: In competitive meets, team winning two out of three pulls wins the match.

33. Go To It. EQUIPMENT NEEDED: One tug of war rope.

FORMATION: Front rank facing rear rank. A well defined separating line should be drawn between the two ranks. Rope should be held over separating line by members of teams, both hands upon the rope. At the signal to start opposing teams endeavor to pull the rope over separating line. Each team is allowed to hold in reserve any number of its men. The members of this group can be thrown into the struggle at any point to strengthen the line. Time of pull should be limited to two

FIG. 125.

minutes. At finishing signal all contestants "halt in their tracks" and stand still until judge of event has declared the winner. Team having most men on its side of starting line wins.

34. Pull into Trench. NO EQUIPMENT NEEDED. FORMATION: Front rank facing rear rank. A well defined line should be drawn between the two ranks. Each man must keep one foot in contact with the separating line until starting signal is sounded. Upon signal the men seize an opponent and try to pull him across the line. The team with the largest number of prisoners on its side of separating line at end of designated time limit wins. (Duration of each period should be about one minute. Sleeves should be rolled up.)

35. Mass Cross-Country Running. (Company or Battalion.) No Equipment Needed. Formation: Any. Men run over a well-marked course. In marking course care should be taken to avoid land under cultivation. Scoring: Over courses of one mile, team having most men to finish within one minute

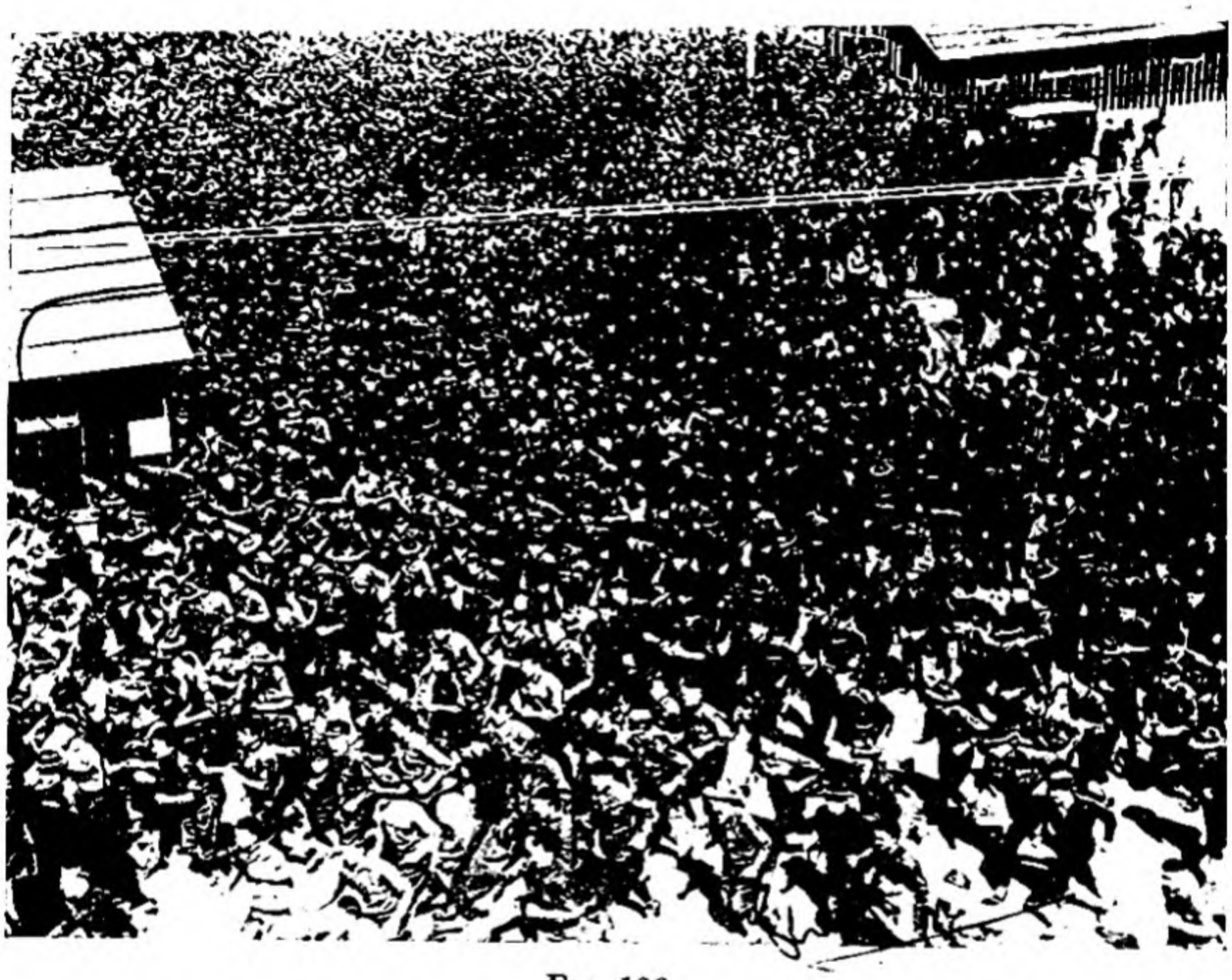


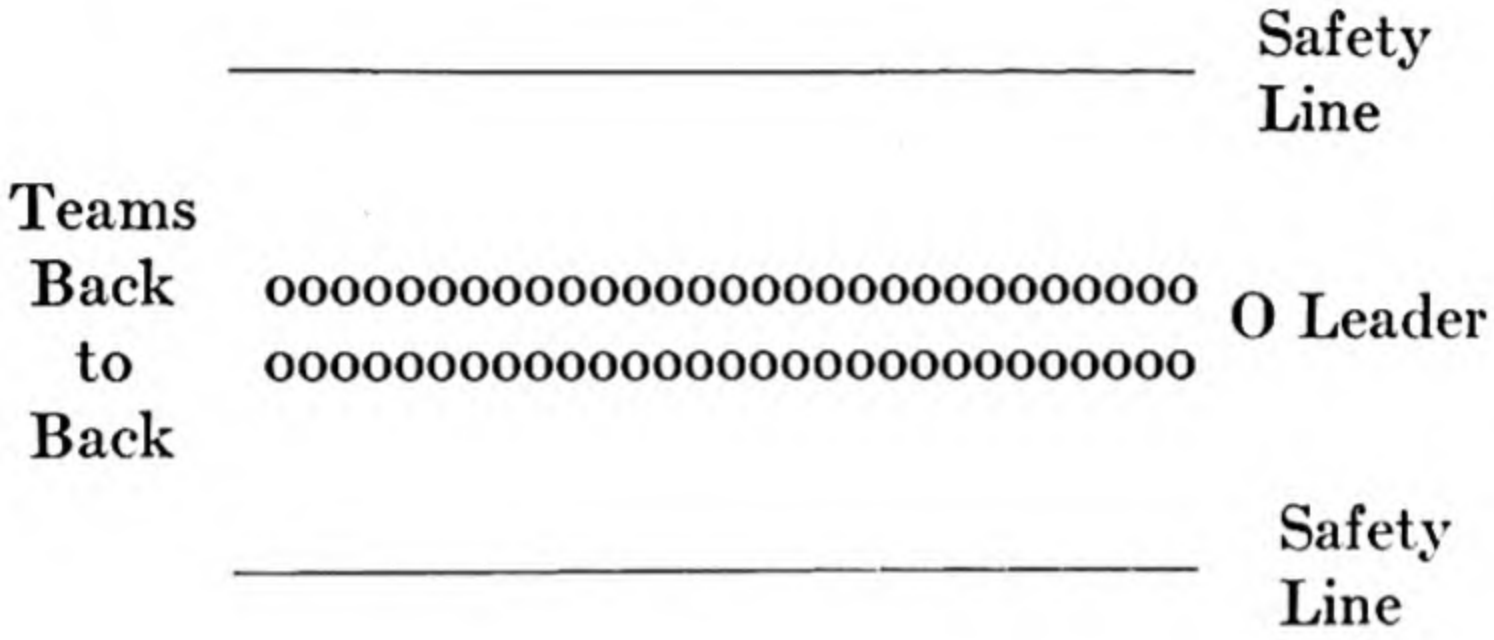
Fig. 126.
2800 MEN STARTING IN A REGIMENTAL CROSS-COUNTRY RACE

~~of~~ first man wins. In two- and three-mile runs, team having most men to finish within two and three minutes respectively of first man wins, etc.

Note: Other methods of scoring are: (1) Team having a certain number of its men to finish first wins. (2) Team having most men to finish within a certain period from the start of the race wins (Fig. 126).

36. Heads or Tails. Equipment Needed: Coin. Formation: Two lines back to back. The one line is named "Heads" and the other "Tails." Leader tosses coin into the air and

calls whichever it falls. If "Heads" comes up or is called all "Heads" run to safety point, which should be about thirty feet away. The "Tails" attempt to catch them before they reach the safety point. Players caught join the team catching them. Team having the largest number of players at end of game wins. See diagram illustrating formation:



37. Heavy Marching Order Contest: Contestants will have roll made up of blanket, poncho, shelter half, and will wear belt, scabbard and bayonet, and carry rifle. Contestants, under directing judges, will march to a starting line where they will remove their equipment, run 50 yards around a stake, return to the starting line, put on equipment, and stand at attention.

38. Tool Wagon Race: Wagons start on signal and place tools every 10 yards on the ground in specified order, drive around a stake, return and pick up tools placing them in proper order on the wagons, and finish at the starting mark for inspection.

39. Comedy Obstacle Race. EQUIPMENT NEEDED: Depending upon race as planned. Race can be any distance desired and may be somewhat as follows: Short sprint, crawl through barrel open at both ends, sprint, then through three hoops one at a time, sprint, then under a canvas flat on the ground, sprint, then through a sack open at both ends, and then sprint to finish. A race can be modified so that natural obstacles can be included in the course.

BALL GAMES

40. Soak About. EQUIPMENT NEEDED: Any soft ball (used tennis ball). FORMATION: Scattered in playing area about 40 feet square. Each player is given a number. Players close in about the ball. When a player's number is called, all others run away and he attempts to hit someone with the ball from where he stands. Any player hit is permitted to throw the ball (from the point where he picks up the ball) at some one else. Any player failing to hit someone on his throw is charged with a "hit." The ball is then placed in the center and the last thrower (the last man charged with a hit) calls the next number. Penalty for stepping out of the prescribed area is one "hit." A player getting three "hits" has to crawl through the legs of the group lined up and gets paddled.

41. Medicine Ball Gap Throw. EQUIPMENT NEEDED: Medicine ball and two ropes. FORMATION: Two ropes are placed parallel about twenty feet apart. Men are arranged in column leading to one rope. First player hurls ball across intervening gap. Style of throw should be stipulated before the beginning of the contest. All must throw alike. The other players follow until all have thrown. Gap is widened. Players throw again. Players failing to make a successful throw are eliminated. Elimination continues until winner is decided. Only one throw is allowed at each distance.

42. Dodge Ball. EQUIPMENT NEEDED: Medicine balls. FORMATION: Circle, facing in, players four feet apart. Other team gathers inside the circle. Team forming the circle has medicine balls (all that are available; any other type of balls may be used) and attempts to hit players of team inside. The players hit drop out. The time it takes to force the entire center team out is recorded. The teams then exchange places and repeat, taking time again. The team taking the shortest time to put opponent's team out wins.

43. Mount Ball. EQUIPMENT NEEDED: Any ball similar to a basket-ball. FORMATION: Double circle, facing in; players of inside circle four feet apart, outside circle covering off inside

circle. Outside circle are "riders," inside circle are "horses." Riders mount on hips of horses. Horses must hold riders firmly. Riders pass medicine ball about; horses endeavor to make riders drop ball. Horses must stay in place (shaking, sidestepping, wriggling, etc., are methods which may be used to make riders drop ball). Horses become riders and all riders become horses whenever any rider drops the ball. Heavy men should be paired together in this game (Fig. 127).

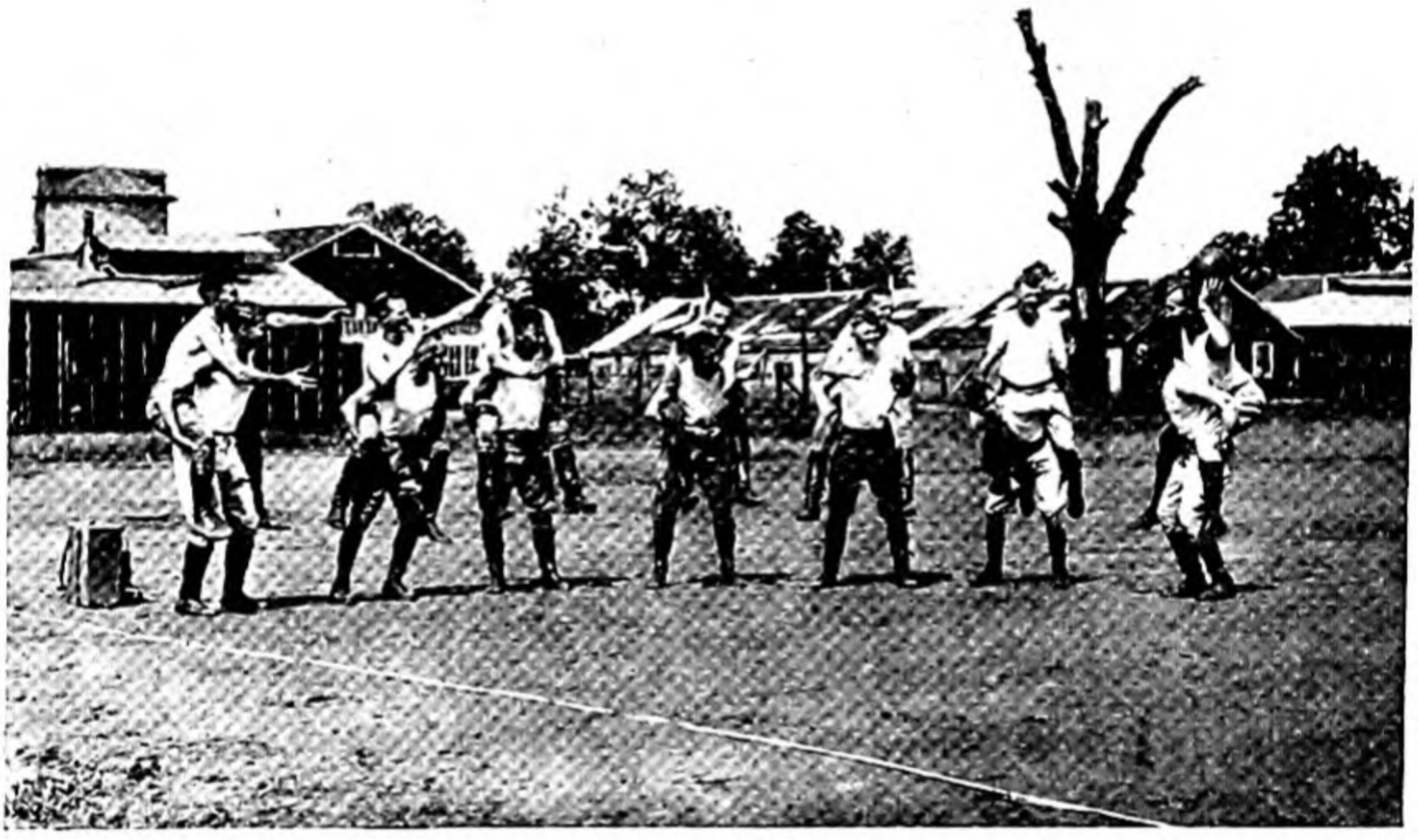


FIG. 127.

44. Ball Tag. EQUIPMENT NEEDED: Medicine ball. FORMATION: Single circle facing in, players four feet apart. If less than sixteen players, one man is "It" in center. If more than sixteen, there should be two "Its." Players in the circle pass a medicine ball about. "It" tries to touch the ball; if he does the player in the circle responsible for his touching it changes places with him and becomes "It."

45. Cage Ball. EQUIPMENT NEEDED: Cage ball, 2 Goals. Cage Ball is a game for large groups. As many as 400 men can play at one time. It is not essential to have large groups for as few as 20 players on a side make a good match. Fifty to 100 to a team makes the best match, however.

1. The playing field is 140 feet long and 100 feet wide. The cages, one at either end of the field, are 10 feet above the ground, 30 feet long, and about 4 to 6 feet wide. These cages (or goals) are erected 10 feet inside the goal line.

2. To start the game the ball is placed in the middle of the field and the two teams are lined up facing each other about 20 feet apart. The referee then explains the few important rules to each team. The two captains advance to the center of the field and take hold of the ball. When the referee blows the whistle the game begins; the two captains may struggle for the possession of the ball and the two teams rush for the ball. The object of the game is to get the ball into the opponent's cage, by batting, punching, or throwing it.

3. Players are not allowed to kick or run with the ball, crowd or shove when the ball is on the ground, or touching the cage. (Penalty for breach of these rules: The ball is given to the offended team 30 feet from, and directly in front of, the opponent's cage. The penalized team may line up 10 feet in front of the ball. The referee's whistle starts the game from this position.)

4. When the ball goes out of bounds, play need not stop unless the referee thinks that it is too far away to make scoring possible. When the referee decides that the ball is too far away from the playing field, he brings it in to the side line and throws it into the air 20 feet inside the line. Four assistant umpires may stand on the boundary lines of the field and decide all plays when the ball goes out of the field proper.

5. One point is scored for each goal. The game lasts for one period of 30 minutes unless otherwise agreed upon.

46. Mass Soccer Football: Soccer football, when played properly, according to the rules, requires much the same team work and passing as basket-ball except that the ball is kicked and advanced by the use of the feet, body and head, rather than by the hands as in the case of basket-ball. However, when the time for practice is limited, and when it is desired that large groups of men play, it is advisable to do away with all rules except the following:

1. No player except the goal tender should be allowed to pick up the ball, carry it, throw it or hold it in his hands or arms.

2. No player should be allowed to kick, trip, hold, or rough another player at any time. (For a breach of these rules the offender is put out of the game and his team penalized by giving the ball to his opponents for a free kick at the point where the offense was committed.)

SIZE OF FIELD, ETC.: The best sized soccer field is about 60 yards wide and 110 yards long. The goal posts, erected in the ends of the field, are 24 feet apart and the cross bar 8 feet above the ground. But the game can be played without goal posts, scoring in this case when ball goes over end lines.

NUMBER OF PLAYERS ON TEAM: Twenty-five or more men on each side make a good game. The players on one side roll up their sleeves. For convenience these are named "whites," while those with their sleeves down are named "browns;" or one side can take their shirts off and the other side leave them on.

The game is begun by the winner of the toss choosing the goal and kicking the ball from the ground from the middle of the field. After the kick-off players may move anywhere on the field and are eligible to play the ball. After a score the ball is kicked off by the losers from the center of the field.

To score a goal, where goals are erected, the ball must pass under the cross bar between the uprights. This counts five. If the ball goes over the end line outside the goal it counts one.

When the ball goes out of bounds, that is, across the side lines, the first player recovering it may put it in play again by kicking it from the point where it went out. Player putting ball in play again from out of bounds is not permitted to kick it over goal line for a goal.

NOTE: From 100 to 500 men may participate in a game at one time by the simultaneous use of from four to eight balls (depending upon the number playing). Any ball which crosses a goal line is immediately dead and out of play. The game continues until all the balls are dead and out of play. The team scoring the largest aggregate number of points wins. There should be a referee for each ball.

47. Medicine Ball Soccer. EQUIPMENT NEEDED: Medicine ball. FORMATION: Two teams line up on opposite sides of a field about 50 feet square. A medicine ball is placed in the middle of the field. At signal both teams rush toward the ball, each team attempting to kick the ball across the opponent's goal line. Each goal counts one point. After each goal the ball is put in play in the center of the field. Game lasts ten minutes or any other length of time that the physical training officer may set. The use of hands or arms in pushing or blocking is forbidden. Rough tactics are prohibited.

48. Volley Ball. COURT: The playing surface is not more than 35 feet wide and 60 feet long. A net is stretched across the entire width of the court at the middle. The top of the net is 8 feet from the ground. NUMBER OF PLAYERS: Team may consist of twenty or more players. Twelve to a side makes a good number. The two teams line up on opposite sides of the court facing each other. A coin is tossed. The winner of the toss "serves" the ball. The object of the game is to volley the ball over the net to your opponents, so that it will hit the ground inside their court. If the side serving lands the ball safely within opponents' court; or if, after making a legitimate serve, its opponent fails to return the ball legitimately, one point is scored for the side serving. Only the team serving can score. If the team serving fails to land the ball in opponent's court, or if it fails to legitimately return the ball to the opponent's court, the side serving loses its serve and the other team serves. The player serving continues to serve until his team loses the serve. When his team again gets the serve, some other player will serve. Each player must take his turn serving. The ball may be batted with one or both hands, but it must not touch the ground or go out of bounds. The ball may be played by any number of players before being batted over the net but no player shall play the ball twice in succession. A ball served into a net counts against the server. Any other ball may be played off of the net. No player shall dribble the ball, hold it, catch it, or reach over the net to strike the ball. The first team to score 15 points is the winner.

49. Push Ball. EQUIPMENT NEEDED: Push Ball. Any number from 10 to 1000 can play on a side in push ball, but the best game results when the teams are composed of 25 to 50 players. There are very few rules to be observed. Rough and unsportsmanlike playing should be barred. Kicking, kneeing, striking, hitting an opponent, or stepping on him when he is down, are tactics which are against the spirit of the game. The playing fields may be anywhere from 50 to 100 yards square. At the start of the game the two teams are lined up opposite each other about 20 yards away from the ball. The ball is in the center of the field. At the referee's signal the teams rush at the ball and try to push it over the goal lines of their opponents. Each goal counts one point. After each goal the ball is put in play as at the beginning of the game. When the ball goes out of bounds over the side lines, it is brought to the middle of the field, opposite to the point where it went out, and is put in play by lining the two teams up facing each other at a distance of about 20 yards from the ball. The best length for the game is two periods of five minutes each, with the teams changing goals at the end of the first period. Time should be taken out for all periods during which the ball is not actually in play (Fig. 128).

FIG. 128.

SHUTTLE RELAY COMPETITIONS

Large numbers of men can be easily and quickly put through track and field events by using the shuttle relay method. Although necessity for timing and measurements is eliminated, all of the elements of competition are still maintained.

It is desirable that the last competitor of each team should be indicated in some well-defined way, as by wearing no shirt, or a white undershirt only, a white band around the shoulder or a handkerchief securely tied around head or arm.

Most common of the shuttle events are:

1. Runs

50. The dashes (50, 100, 220 yards).
51. Hurdle.
52. Obstacle.
66. Rescue (carrying another person). (Detailed description on page 172.)
77. Bayonet hat. (Detailed description on page 175.)

2. Jumps

53. Standing broad jump.
54. Running broad jump.
55. Standing hop, step and jump.
56. Running hop, step and jump.
57. Three standing broad jumps.
58. Hopping.

3. Throws

59. Shot put.
60. Baseball throws.
61. Medicine ball (1 hand, 2 hands).

Formation for Shuttle Events: The teams are arranged in columns about 5 yards apart. Each of the columns constitutes a team and should be made up of an equal number of men. From two to sixteen (or even more) teams may take part simultaneously; however, four to eight is the most satisfactory number.

In the shuttle **runs** one-half of each team remains at the starting line while the other half is marched beyond a designated line and faced about. The distance between this designated line and the starting line is the length of the race.

The leading member of each team at the starting line has baton (belt or handkerchief) in his hand. At starting signal he runs forward to the other half of his team, handing baton to the leading member. This receiver carries it back to the starting line. The baton is thus shuttled back and forth until the last man has run. No runner is permitted to cross the starting line, which he is toeing, until he actually receives the baton. After each man finishes the run he immediately falls in line at the foot of the column. The team finishing first wins.

NOTE: A modification of the foregoing is to have **every** member of the competing teams in column formation behind the starting line. Each competitor runs **to or around a given point** and returns to the starting line, where he hands baton to next competitor.

In the **jumping and throwing events** the competing teams should be paired and the competition conducted in elimination tournament fashion. A base line is established. The two competing teams line up on opposite sides of and facing this line. The leading man of Team A is toeing the base line. The leading man of Team B is some distance in front of the base line; the amount of this distance depending upon the event. No. 1 of Team A makes his jump (or throw) from the base line. No. 1 of Team B executes a return jump (or throw) using as his starting line the rear (one nearest base line) heel mark of the first jumper. No. 2 of Team A then jumps back (or throws) from the mark made by No. 1 of Team B. Teams alternate jumping (or throwing) in this way until every man has participated. If the last man of Team B jumps (or throws) beyond the original base line, Team B wins; or if his jump (or throw) falls short, Team A wins. Any competitor who oversteps his base line in jumping or throwing is penalized twice the distance that he overstepped the line; *i.e.*, his mark is brought back that distance.

NOTE: The following charts illustrate the above formations:

SHUTTLE RUNS FORMATION

Team 1 (even numbers)	Team 2 (even numbers)	Team 3 (even numbers)	Team 4 (even numbers)
16	16	16	16
14	14	14	14
12	12	12	12
10	10	10	10
8	8	8	8
6	6	6	6
4	4	4	4
2	2	2	2

Designated Line

(Length of race).....

NOTE: At starting signal, each No. 1 man on each team runs forward and passes baton to No. 2. No. 2 returns and passes to No. 3, and so on. Team finishing first wins.

Starting Line

1	1	1	1
3	3	3	3
5	5	5	5
7	7	7	7
9	9	9	9
11	11	11	11
13	13	13	13
15	15	15	15
Team 1 (odd numbers)	Team 2 (odd numbers)	Team 3 (odd numbers)	Team 4 (odd numbers)

NOTE: The distance the designated line is from the starting line is the length of the race.

FORMATION FOR SHUTTLE JUMPS AND THROWS

Team B

8
7
6
5
4
3
2
1

1. No. 1 man Team A jumps first and this is his rear heel mark which is used as a toe-line by No. 1 man of Team B who jumps next.

Base Line

1
2
3
4
5
6
7
8

2. Rear heel mark of No. 1 man of Team B. No. 2 man of Team A jumps next using this heel mark as toe-line, etc.

Where there are ample facilities, mass competitions can be conducted in the ordinary cumulative relay fashion. The events can either be run on a straight-away course or around a track (four or more stakes may serve as track about which competitors run). In the jumping and throwing events, the competing teams form in parallel columns. No. 1 of each team jumps or throws, No. 2 jumps forward from No. 1's mark, and so on. The team jumping or throwing farthest from the base line wins. It is seldom advisable to conduct jumping and throwing competitions in accordance with this method, in preference to the shuttle method, due to the great amount of field space necessary.

MISCELLANEOUS RELAY GAMES

There are certain races and games of a relay type that have become very popular in the military camps. In all of these races the teams form in columns about 10 feet apart, 12 to 30 (or more) men to a team. A captain should be appointed for each team who should direct rather than compete. The officer in charge should occasionally have the captains count their men in order that there may not be inequality in numbers.

FIG. 129.

63. Crawl Through Legs Relay. NO EQUIPMENT NEEDED: At signal, first man spreads feet. Second man crawls through first man's legs coming up close in front, feet spread. No. 3 crawls through legs of both Nos. 1 and 2, coming up in front of No. 2. Nos. 4, 5, 6, etc. follow in succession. Last man through runs forward to a given point (Fig. 129).

64. Leap Frog Relay. NO EQUIPMENT NEEDED: Three to five men, depending on size of team, are placed in front of column, six feet apart, to act as bucks. Bucks bend over, feet spread, hands on ankles, keeping their knees as straight as possible. At signal, column advances and straddle vaults over bucks, then runs around to right and to rear of column and back to starting point.

65. Down and Up. No Equipment Needed: Entire team spreads legs at signal. First man in column passes some object between his legs to next man, who passes it on. Last man in column yells "Down" when he gets the object, and with legs astraddle runs forward over the other men who have crouched to the ground. When he reaches the front of the column the other men rise and the object is passed back between the legs, etc., until all have taken it forward.

66. Rescue Relay. No Equipment Needed: Each team is divided, one-half in column of files at the starting line, the other half lying on their backs on line twenty yards in front. At a signal the first man of each team at the starting line runs to first man lying down, picks him up, and carries him to the starting place. Second man starts as first crosses the starting line. The team that gets all its men across starting line first wins the race.

67. Obstacle Relay. Equipment Needed: Natural obstacles, etc. Obstacles of all kinds are placed in front (things to crawl under, jump over, vault, climb through or run around). First man makes circuit and finishes at starting line. Second man receives baton and repeats, and so on.

68. All Fours. No Equipment Needed: At signal first man with baton in hand runs on hands and feet to or around a given point and returns to starting line. Second man receives baton at starting line and repeats. Third man repeats, etc. Vary by running with knees and elbows stiff or leap-frog style.

69. Centipede Relay. Equipment Needed: One tent pole or broom stick for each team competing. Two men get astride a pole held by both hands of both men. (One hand in front and one hand in back.) They run forward to, or around, a given point and return to the starting point, where they drop the stick. The next two men pick up the stick, adjust it in the same way and proceed. This race may be modified by using a larger number of men on the stick.

70. Paul Revere. No Equipment Needed: Team strings out in column across field, five yards between men. One rider stands at the rear of the column. At the signal the rider mounts astride the hips of the last man, who carries him forward to the player immediately in front of him. The rider is

here transferred to the back of the second man. Transfer must take place without permitting the rider to touch the ground. Failure to do this disqualifies. Player at head of column carries the rider forward to a given point.

71. Wheelbarrow. No Equipment Needed: First man walks on hands, second man carries the feet of the first man. Advance to given point (about 30 feet in front). At this point men change positions (second man walking on hands, first man carrying feet of second man), and return to starting line. After first two men cross starting line the next two men start as described, and so on (Fig. 130).

Fig. 130.

72. Chariot. Equipment Needed: One short pole for each team competing. Four men stand abreast with a stick held by both hands in front of the chest. The group of four runs forward to, or around, a given point and returns. The next four men take the stick and proceed as the first four. The race may also be run by locking the arms about the shoulders, or locking elbows. This race may be modified by using any number of men.

73. Overhead Ball Relay. Equipment Needed: One medicine ball for each column. Players stand at attention with the ball on the line in front of the column. At the starting signal the ball is passed back over the head by the first man to the

second, and so on until it reaches the last man. (Every man in the column must grasp and pass the ball.) The end man carries the ball forward over the backs of the men in the column in front of him who assume a stooping position. As soon as he reaches the front of the line he runs to the distance line and, after touching it, he returns to the front of the column and starts the ball back over his head. After every man has carried the ball forward the last man finishes the race when he crosses the distance line.

74. Pig-a-Back Relay. No Equipment Needed: Players stand at attention. At the signal to start, No. 2 in the column leaps upon the back of No. 1, who carries him across the distance line in pig-a-back fashion. There he drops him. No. 1 remains behind the distance line. No. 2 rushes back and picks up No. 3 in the column and carries him beyond the distance line and No. 2 remains there. No. 3 rushes back and picks up No. 4, and so on. When the last man in the column has been carried across the distance line the race is finished.

75. Football Passing Relay. Equipment Needed: One Rugby football for each column. Each ball is placed on the starting line in front of the column. Players assume a stride stand position. At the signal to go, the ball is passed from man to man. Each man must catch and pass the ball back between his legs until it reaches the last man in the column, who rushes forward across the 25-yard distance line. From that position he makes a forward pass to the front man in the column and runs to the front of the column. The front man upon catching the ball starts it back, passing it between his legs, until it gets to the rear of the column. The end man carries it forward and repeats the performance of the man who preceded him. The race ends when the last man in the column throws the ball back from beyond the distance line. The ball first crossing the starting line determines the winner.

76. Passing the Man. No Equipment Needed, Formation: Front rank facing rear rank. Last man of front rank is passed down between the two ranks on the arms of the men to the head of the file. Here he is landed and takes his position

ready to pass other men. Last man of rear rank is then passed down in the same manner. Game continues in this way until all have made the journey.

77. Bayonet Hat Relay. EQUIPMENT NEEDED: 3 to 6 bayonets and an equal number of hats for each competing team. FORMATION: As for shuttle runs. One-half of each team is stationed behind each of two parallel lines from 50 to 100 yards apart. From 3 to 6 bayonets are stuck into the ground at regular intervals in the lane of each competing team. A hat is placed on each bayonet. At starting signal No. 1 of each team runs forward and removes the hats. As No. 1 crosses finish line No. 2 leaves same and replaces hats on bayonets. No. 3 runs forward and removes them, and so on.

NOTE: When the hats are removed from the bayonets, they may be: (1) Thrown on the ground near each bayonet, or (2) Carried forward and placed at the feet of the next runner at the head of the line so that he may take them one by one and place them on the bayonets.

CLASS 3. GAMES, STUNTS AND INFORMAL CONTESTS

78. Individual Tug of War: Contestants face each other, each man holding one end of a small rope from six to eight feet long, with both hands. At starting signal they turn about, slipping the rope over the right shoulder and endeavor to pull opponent backward. This should also be practiced with the rope over the left shoulder (Fig. 131).

79. Hello Mike: Two blindfolded opponents lie upon floor face down with their heads towards each other and about a foot apart. They reach above their heads with their left arms, grasping hands. Their right hands are covered with boxing gloves. No. 1 says, "Hello Mike, are you there?" No. 2 is required to answer, "I AM," trying to deceive his opponent as to location. No. 1 takes one swing with his gloved hand at the point where the voice comes from. No. 2 then asks the question and the game continues.

80. Smudge Boxing: This is regular boxing with the boxing gloves covered with burnt cork or some other black substance.

81. Jousting: Contestants stand upon barrels or chairs each armed with an 8-foot pole, the end of which is protected by boxing gloves. The object is to dislodge opponent.

82. Shoe Race: Shoes of contestants are thrown into a barrel. The contestants line up behind a given line. At a signal they rush to the barrel and endeavor to find their own shoes. They are allowed to throw any shoes not their own as they will. As soon as they find their own they must report back with the shoes properly on to the judge. The one first doing so wins.

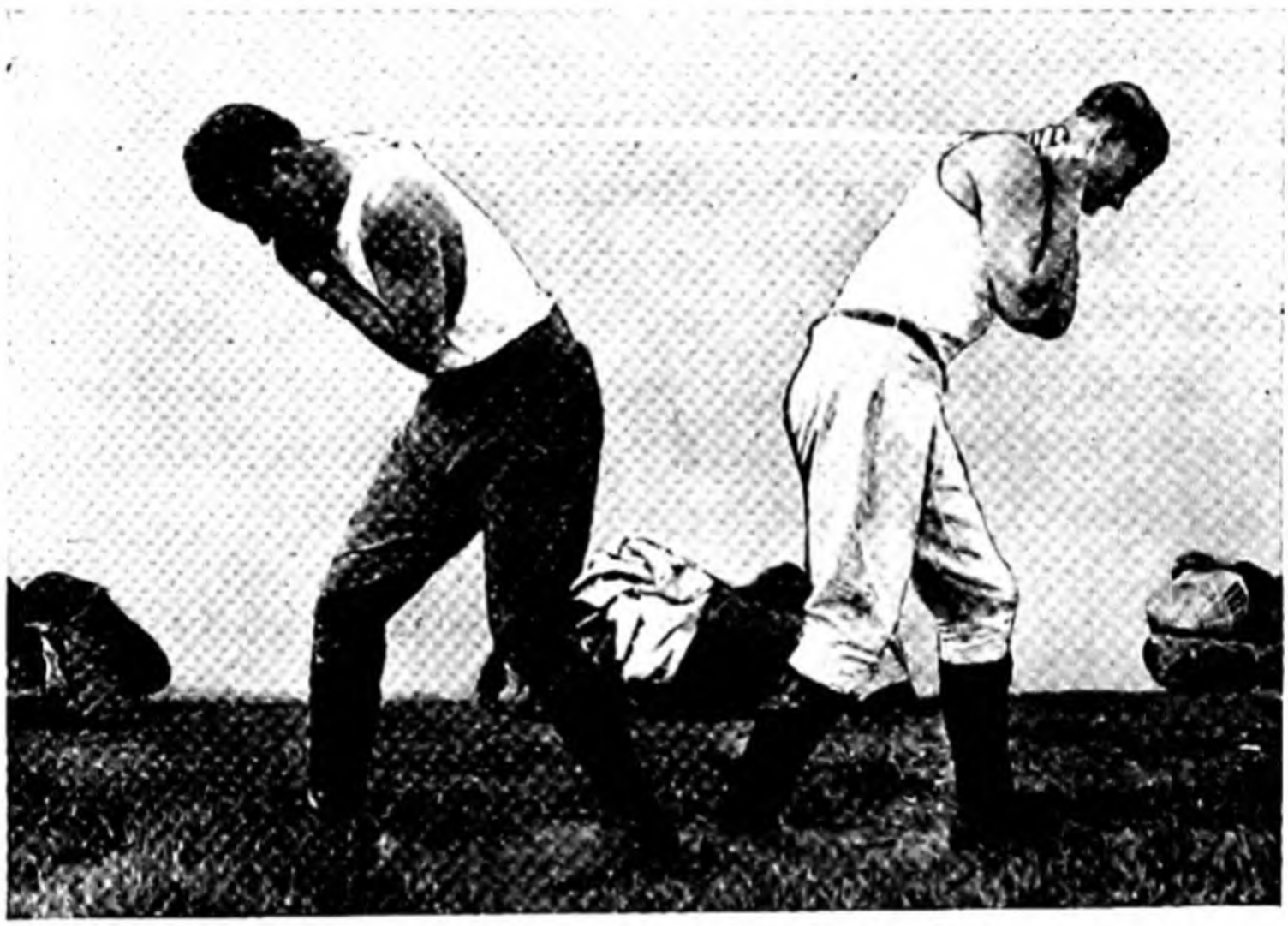


FIG. 131.

83. Blindfold Race: Contestants are blindfolded and after being spun about several times, start on the race which is to the other end of the room and back.

84. Hot Hand: One man who is "It" bends forward, placing his hands on his knees. The other players gather behind him and swat him with the palm of their hands. If he guesses the one who hit him, that one must take his place.

85. Barrel Boxing: Two barrels are placed several feet apart. Opponents box while standing inside of these barrels or on the heads of them.

86. Ankle Throw: This feat consists of tossing some object over the head from behind with the feet.

87. Hand Slap: Two performers. No. 1 holds out hands in

front, palms up. No. 2 places his hands in those of No. 1, palms up. No. 1 withdraws either hand and endeavors to strike No. 2's opposite hand. The game proceeds until No. 1 fails to slap No. 2, then he goes on top and No. 2 becomes the swatter.

88. Cross Wires: Individual clasps hands in front of face, then grasps left ear with the right hand and the end of his nose with his left hand. He then releases hands, clasps them again, and regrasps, using the other side of his face and also reversing his hands, that is, the right hand holding the nose and the left hand grasping right ear. Object is to continue exercise without "fumbling."

89. Jump Stick: Broom stick is held between the hands of the performer in front of his thighs. He endeavors to jump over the stick without loosening the grasp of either hand.

90. Crack the Whip: The men form in line joining hands. The strong and fast men should be at the head of the line and the slow and short ones at the end. Line runs on the level or down hill, stops quickly and pulls. The object is to keep the line from breaking and to "crack off" the end men.

91. Duck on the Rock: A flat rock is placed upon the ground fifteen yards in front of a line. Each competitor is given a small rock (or any small missile) and in turn throws from behind the line, endeavoring to have his missile land as near the flat rock as possible. The one whose missile is the greatest distance away from the flat rock is "It." He places his missile (which is called the "duck"), on the rock, and the other competitors endeavor to pick up their missiles and run back across the line without being tagged by "It." Any player tagged becomes "It" and must place his missile on the rock. As soon as the competitors have crossed the line they endeavor to knock the duck from the flat rock by throwing their missiles at it. If successful they are allowed free return passage to the line and "It" must replace his duck on the rock before he can tag any of the competitors in their endeavor to race back to the line.

NOTE: The exercises which are described in Sections VIII and IX on "Personal Contact Drills and Line Wrestling," are adapted for use as two-men competitions.

CHAPTER XII

The Conduct of Meets and Contests

In this section, emphasis is placed on athletics from the standpoint of furnishing entertainment for the spectators and recreation for the participants. The value of athletics for this purpose and as a factor in raising morale was demonstrated by the athletic organization set up in the American Expeditionary Forces after the signing of the Armistice. Competitive athletics were also emphasized and were most useful in furnishing recreation and promoting contentment among the soldiers during the demobilization period in the camps in the United States.

The material in this section will be of particular value to physical training officers and others responsible for the systematic promotion of athletics in the army. It will help to improve the standards of competition and will increase the training value of participation in these activities.

FORMATION OF LEAGUES

For the purpose of getting the greatest value out of competitive athletics, the organization of leagues and the formation of schedules in the various kinds of contests are desirable. It is advisable to have regular schedules of the various sports used in platoon, company, and regimental contests. Inter-camp contests have also been found valuable in stimulating interest in athletics, in developing unit loyalty and sustaining morale.

One of the important duties of the camp physical training officer is to organize leagues in football, basket-ball, baseball, volley-ball, and the like, for the purpose of securing wide participation in these games. These games should be administered as largely as possible, through company athletic officers and every effort should be made to keep these athletic officers interested in creating rivalry between the companies and in getting the men of the various companies interested in the teams that

represent them. The camp athletic officer should strive to see that each team has an even distribution of equipment. Choice of officials is an important item and should generally be looked after by the camp physical training officer. In these contests everything possible should be done to develop a high degree of sportsmanship in the men participating. The camp physical training officer should never display any mark of favoritism toward any one team but should be equally interested in the success of all.

SUGGESTIONS FOR CONDUCTING ATHLETIC MEETS

In the army whether the athletic meet be a company, regimental, camp or divisional meet, its success largely depends upon the organizing genius of the physical training officer. In a divisional meet, or in any games where various branches of the service are represented, it is well to have some officer in charge of each branch of sport. For instance, one officer should take command of the track and field meet, another the horse events, and so on. These officers should all report and be responsible to the physical training officer. It is suggested that the physical training officer should act as a general director and should devote his time and energies to managing the meet and to seeing that each officer and official carries out instructions. It is an unpardonable sin in the army to begin a game or meet late. The physical training officer should be personally responsible for seeing that the events start promptly at the time scheduled.

1. **Officials:** Where the various athletic officers are acting in the rôle of coaches it is seldom advisable to make use of them as officials for the reason that their time can be better employed in seeing that their men report promptly for scheduled events and that their contestants are informed regarding the rules and conduct of the meet. Great care should be exercised in choosing officials, not only because the decisions rendered by the officials are highly important, but also because they can render invaluable service in running the meet off promptly.

The officials include: Director of games, referee, judges, timers, scorers, measurers, marshals, starters, clerk of course, announcer, custodian of prizes, inspectors, etc.

The physical training officers should give each official a typewritten copy of instructions, telling him where to report, time to report, and outlining his duties. In case of finish judges, one man should be designated as head finish judge. A great deal depends upon the clerk of course, who will keep the events going on schedule. He should assist the starter in placing the men after they have drawn for lanes, and he should see to it that the contestants are ready for the drawings at a stated time.

2. Grounds: Every precaution should be taken to see that the grounds are properly laid out and everything arranged in advance. The track should be rolled, the running lanes, starts, finishes, and handicaps should be marked, the shot-put, discus and hammer throwing circles in place, jumping pits spaded up, and the take-off boards properly set. Adequate dressing accommodations should be arranged for. Further, every precaution should be taken to see that the comfort of the spectators has been attended to and to be sure that the spectators will not be allowed upon the track or in the enclosure.

3. Contestants: The various athletic officers are responsible for seeing that the contestants are acquainted with the rules and that they report promptly on time for the various events. It is almost always best to run off a meet on a definite time schedule. When this is done each contestant should be given a copy of the schedule so that he will know when his events occur. Coaches and trainers should never accompany the contestants to the starting point or inner grounds, for two reasons; one is that the men should be taught to do their best without side-line coaching, and the other is that the practice of having coaches accompany contestants to the start crowds the track and obstructs the view of the spectators.

4. Equipment and Miscellaneous Details: Physical training officers should see to it that someone is responsible for providing woollen yarn for the finishing line, Kelly pool balls or

some other device for drawing places, cross bars for the pole vault and high jump, stop watches, pistol, blank cartridges, megaphone, measuring tape, safety pins, and first aid articles, batons for the relays, rakes and spades for the jumping pits, hurdles and standards for the high jump and pole vault. Each event on the program should be studied and all equipment needed should be secured in advance of the meet. The program should contain the names of the officials, the order of events, the handicaps, classification, competitors' numbers, unit of each competitor, laps for the various distances, track records, etc. Advertising can be conducted through the newspapers and by means of bulletins, posters, and handbills. Where there is an admission charge, ticket men should be secured and properly instructed. Music, ushers, prizes, and officials' badges should be arranged for in advance.

5. Suggested Cards for Clerks of Course to be Used in Competitive Meets: The clerk of the course should have the cards filled out with names of contestants as far in advance of the starting of the meet as possible. At the drawings he should insert the course drawn by each man. At the end of the race he should turn the card over to the head finish judge who will fill in the order of finish, sign the card, have the other finish judges sign and then turn same over to timers who will fill in the time for track events, sign and turn card over to the announcer. The announcer will turn all cards in to the physical training officer at the conclusion of the meet.

SCORE CARD FOR TRACK EVENTS

EVENT _____ DATE _____

COURSE	Contestants	Contestant's Number	Order of Finish
	(NOTE: the numb	of these lines depends	
	on the number	of contestants.)	

TIME _____ WINNERS _____

TIMERS _____ JUDGES _____

SCORE CARD FOR FIELD EVENTS

EVENT _____ DATE _____

Contestants	Contestants' Number	Trial	Trial	Trial
	(NOTE: The number	of these lin	es depends	
	upon the number	of contes	tants.)	

WINNER _____ RECORD _____ JUDGES _____

SECOND _____ " _____ _____

THIRD _____ " _____ _____

ARMY BOXING RULES

Preliminary to the Bouts

The tone and spirit of a boxing contest or tournament depend a great deal upon the proper attention to certain preliminary preparations which are essential to the conduct and control of any athletic exhibition. A high grade of competition can never entirely compensate for the mismanagement of ring details. Boxing is too important a factor in the training of the soldier to be spoiled by failure to procure competent officials and to provide other essential details in ample time to insure a smooth running organization.

It is strongly recommended that physical training officers follow a regular procedure which will automatically apply to all boxing bouts which may be held, as follows:

1. The necessary authority for the contest, date of meeting, and place. (Arrange not less than one week prior to contests.)

2. Entries—announce where made, when closed, classes, drawings.

3. Publicity—camp and public.

4. Officials—select referee, judges, clerks, medical officer, and timer. Secure in ample time before contest.

5. Ring equipment—watch, gong, or whistle. Buckets, dressing quarters, etc., chairs, gloves, towels. Be sure everything is on hand.

6. Management of spectators.

(a) Building assistants.

(b) Policing—doorkeepers, ushers.

(c) Programs.

(d) Sale of tickets.

(e) Seating.

All the foregoing details can be handled with a minimum of difficulty if they are considered in time.

Competent officials are essential. It is always a good plan to establish a representative corps of officials in each camp. The membership in such an organization of boxing officials should depend upon their past experience in boxing and their

ability to officiate. An advisory body of officers could readily be assembled to pass on the merits of each novice official. The services of skilled officials insures nonpartisan judgment and commands the confidence of the competitors and spectators.

RULE I

Equipment

Ring Dimensions. SECTION 1. The boxing ring shall be not less than 16 feet nor more than 20 feet square.

Extension of Ring. SECTION 2. The floor of the ring shall extend beyond the lower ropes for a distance of not less than 2 feet.

Posts. SECTION 3. There shall be at least four posts, properly padded.

Ropes. SECTION 4. The ring shall be inclosed by at least three rope rails with cloth wrappings.

Padding. SECTION 5. The ring floor, if of wood or other hard substance, shall be padded at least 1 inch thick with corrugated paper, matting, felt, or other soft material.

NOTE: A very good padding for an outdoor ring is dampened sawdust covered with tight canvas.

RULE II

Ring During Progress of Match. SECTION 1. During the progress of a contest the ring shall be cleared of all chairs, buckets, etc.

Clear Ring. SECTION 2. No person other than the contestants and the referee shall during the progress of the contest enter or be in the ring.

RULE III

Boxing Gloves

Gloves. SECTION 1. Gloves are to be of the pattern issued and shall weigh not less than

(a) Ten ounces in all "novice" contests.

(b) Eight ounces in all "trained men" bouts, except in divisional championship bouts, in which either six or eight ounce gloves may be used.

Bandages. SECTION 2. Bandages must not be worn on hands except by direction of medical officer. Any bandages permitted shall be of soft material and not heavy enough to add force to a blow.

RULE IV

Shoes

Spikes and Cleats Barred. SECTION 1. Boxing shoes having spikes or cleats shall be barred.

RULE V

Two Classes. SECTION 1. Boxing contests or exhibitions shall be divided into classes:

(a) Trained men are those who have won elimination company championships.

(b) Novice men are those who have never won in a company competition.

RULE VI

Number and Time Limit of Bouts and Rounds. SECTION 1. A boxing contest or exhibition shall be limited to four rounds. A round shall be of two minutes' duration with an intermission of one minute between rounds for rest. If the judges disagree at the expiration of four rounds, the referee may at his discretion call for a fifth round, which shall also be limited to two minutes.

Divisional Championships. SECTION 2. The final bouts in divisional championships shall be six rounds, three minutes each, and no extra round can be ordered.

RULE VII

Officials and Duties of Officials

Officials. SECTION 1. The officials shall be a referee, two judges, two clerks, one timekeeper, and one medical officer.

NOTE: It cannot be too strongly emphasized that the referee and judges of a contest should not be connected in any way with either of the organizations represented, and that they should be thoroughly competent and impartial.

Duties of Referee—Decision of Judges Final. SECTION 2. The referee shall have general supervision over the match or contest, and shall take his position within the ring. The primary duty of the referee shall be the strict enforcement of the rules of boxing and of fair play. The referee shall, at the conclusion of the bout, abide by the decision of the judges in every case, if both agree.

SECTION 3. The referee shall have the power:

Power of Referee to Give Deciding Vote. (a) To cast the deciding vote when the judges disagree.

To Order Extra Round. (b) In competitions (not exhibitions) to order an extra round, limited to duration of preceding rounds, if the judges disagree, and he himself is in doubt as to the decision.

May Stop Contest. (c) To stop a bout or contest at any stage and make a decision if he considers it too one-sided.

To Disqualify. (d) To stop a bout or contest if he considers the competitors are not in earnest. In this case he will disqualify one or both contestants.

NOTE: He may first give one warning to the contestants, deducting from the round the time lost in so doing. Not more than one warning shall be given.

Disqualification Without Warning. (e) To disqualify a contestant with or without previous warning for committing any one of the fouls noted in Rule XIV.

Shall Not Touch Contesting Boxers. SECTION 4. The referee shall not touch the contesting boxers except in special cases, such as:

(a) Failure of one or both contestants to obey "break" command.

(b) To assist injured contestant.

Introduction Handshaking. SECTION 5. The referee shall insist on all boxers shaking hands at the commencement of the first and last round. No other demonstration shall be allowed.

Announcer. The referee may be assisted by an announcer, whose duty shall be to announce the names of all

contestants and act as a go-between between the referee and the judges.

Position of Judges. SECTION 6. The two judges shall be stationed at opposite sides of the ring, preferably on a level with the boxers.

Duty of Judges. SECTION 7. It shall be the duty of the judges to watch every phase of the bout and to make a decision.

Method of Scoring. SECTION 8. The judges shall keep count of the rounds, points scored, time out, and "downs" and generally coöperate with the referee.

Clerk Assistants to Judges. SECTION 9. Each judge shall be assisted by a clerk of his own choice.

Duty of Clerk. SECTION 10. It shall be the duty of each clerk to keep a clerical record of the score of both contestants throughout the round and bout, as dictated to him by the judge during the progress of the bout.

(a) The clerk shall submit to the judge the point summary immediately at the conclusion of each round.

(b) He shall notify the judge at any stage of the round if one contestant leads an opponent by the maximum of 20 points.

NOTE: This service by a clerk will enable each judge to give his undivided attention to the progress of the bout.

Duties of Timekeeper. SECTION 11. The timekeeper must be seated close to and outside of the ring.

Two Watches. NOTE: It is advisable for a timekeeper to have two watches at his disposal.

Commencement and Termination of Rounds. SECTION 12. He shall indicate the beginning and end of each round.

Timer's Equipment. NOTE: It is recommended that the timekeeper have at his disposal a bell, gong, or whistle with which to indicate these periods.

Duties of Medical Officer. SECTION 13. The medical officer shall always be in attendance at each meeting held under these rules.

(a) It shall be his duty to decide whether hand bandages are necessary and to inspect same.

(b) To supervise the physical condition of contestants.

RULE VIII

Medical Examination. SECTION 1. Contestants shall present themselves to the camp boxing instructor or proper person appointed by him promptly at the time appointed for medical examination and weighing-in.

Weighing-In. SECTION 2. In a boxing meet in which the series of meets are completed in seven days or less, contestants will weigh in on the day of their first bout, not earlier than 9.00 a. m. for afternoon bouts, not earlier than 3.00 p. m. for evening bouts. The weight registered at the original weighing-in will be the competitor's official weight for the first seven days of the meet. In meets running more than seven days, weighing-in will be repeated under the same conditions on the eighth, fifteenth and twenty-second day and so on throughout the meet.

Drawing. SECTION 3. Tournaments having a large number of entries shall be governed by the Bagnall-Wild system of drawing.

NOTE: For further information see page 198.

RULE IX

Seconds. SECTION 1. Each contestant shall be assisted by two seconds.

Warning to Seconds. SECTION 2. The seconds must not speak, signal, or in any way coach their principals during the progress of a round, nor may they claim time, or indicate in any way decisions for them.

SECTION 3. Any violation of the above provisions may render a principal liable to disqualification by the referee.

Limitations of Seconds. SECTION 4. The seconds must remain seated during the contests, and shall not enter the ring until the timer indicates the termination of a round. They shall leave the ring promptly when time is called at the beginning of a round.

RULE X

Scoring

Maximum of 20 Points. SECTION 1. A maximum of 20 points shall be allotted to each round of the contest.

NOTE: This maximum should not be exceeded in any case, for in the ordinary course of events if one boxer leads by a greater number of points than allotted for the round, it usually means that the fight is one-sided and should be stopped.

RULE XI

Point Allotment

Point Allotment, 14 Points for—SECTION 1. Fourteen points shall be given for attack and defense.

Attack. SECTION 2. Attack shall cover the following points:

(a) Clean hits.

(b) Aggressive action.

(c) Well-delivered partial hits.

Defense. SECTION 3. Defense shall include:

(a) Blocking.

(b) Making opponent miss.

(c) Balance and readiness to counter-attack.

Four Points for Generalship. SECTION 4. Four points shall be given for generalship.

Generalship. NOTE: When the points are otherwise equal, the decision should be in favor of the boxer who displays the best aggressive generalship and style. The term "generalship" shall indicate the development of natural advantages, coupled with intuition and the ability to grasp quickly the advantage of any opening given by an opponent.

Two Points for Aggressiveness. SECTION 5. Two points shall be given for "aggressiveness."

NOTE: Indicating willingness of contestant to consistently press aggressively forward in the face of punishment.

Points Deducted for All Infractions of Rules. SECTION 6. Points or fractions of points shall be deducted for all infractions of rules. Note Rule XII.

NOTE: It is essential that the allotting of points shall be dictated to the clerk immediately. The system of mentally allotting points will leave an opening for indefinite decision and is generally unsatisfactory.

Method of Naming Winner. SECTION 7. At the end of each contest the judges' clerks shall write or otherwise indicate to their judge the score of each contestant.

RULE XII

Points Deducted for—SECTION 1. Points will be deducted for:

(a) Stalling; *i.e.*, prolonging contests, lack of earnestness, or going down without being hit.

(b) Covering up with hands so that contestant is not in a position to hit.

(c) Clinching.

(d) Hitting while holding opponent.

(e) For all infractions of rules, minor or major (whether indicated or overlooked by the referee).

RULE XIII

Weights

SECTION 1. Competitions in all championships will be held in the following weights and classes:

Weights and Classes	Pounds
Bantamweight	115
Featherweight	125
Lightweight	135
Welterweight	145
Middleweight	160
Light heavyweight	175
Heavy, all over	175

Weight Rule Governing all Bouts. SECTION 2. No contestant shall give or take more than 5 pounds when contestants weigh less than 135 pounds.

SECTION 3. No contestants shall give or take more than 10 pounds when contestants weigh in excess of 135 pounds, except when both contestants weigh over 175 pounds.

NOTE: The above rule shall apply to all boxing contests.

RULE XIV

Fouls. SECTION 1. Hitting below the belt.

SECTION 2. Hitting an opponent who is down or who is getting up after being down.

SECTION 3. Holding an opponent or deliberately maintaining a clinch.

SECTION 4. Holding an opponent with one hand and hitting with the other hand.

SECTION 5. Pushing or butting with the head or shoulder or using the knee.

SECTION 6. Hitting with inside or butt of the hand, the wrist, or elbow.

SECTION 7. Hitting or "flicking" with the open glove.

SECTION 8. Wrestling or roughing at the ropes.

SECTION 9. Going down without being hit.

SECTION 10. Striking deliberately at that part of the body over the kidneys.

SECTION 11. The use of abusive or insulting language.

Added Fouls. SECTION 12. The failure to obey the referee or any physical actions which may injure a contestant, except by fair sportsmanlike boxing, shall also be judged as fouls.

Recommendations to Referee and Judges on Fouls.

NOTE: (a) It is recommended that the referee shall immediately disqualify a contestant who is guilty of a deliberate and willful foul, and award the decision to his opponent. It is also recommended that a referee shall not give more than one warning for a foul, which, although committed unintentionally, is likely to incapacitate an opponent, *i. e.*, butting or hitting below the belt, and shall disqualify offender without warning in case of actual injury. In cases of minor fouls, such as hitting with open glove, clinching, or prolonging contest after fair warning has been given by the referee, he shall have the option of awarding the decision to the opponent.

Point Penalties. NOTE: (b) Judges shall penalize contestants in points for infraction of all rules—major or minor.

RULE XV
"Down"

"Down." SECTION 1. A contestant shall be deemed "down" when:

(a) Any part of his body other than his feet is on the ring floor.

(b) He is hanging helplessly over the ropes.

(c) Rising from "down" position.

NOTE: (a) A contestant may go down through accident or weakness, but must rise instantly unless sent down by a blow, in which case he may remain down until the count of "nine" without being disqualified.

NOTE: (b) A boxer hanging on the ropes is not officially "down" until so pronounced by the referee, who can either stop the bout or count the boxer out on ropes or floor.

Rule for Contestant when Opponent is Down. SECTION 2. When a contestant is "down" his opponent shall retire out of striking distance, and shall not resume boxing until ordered to do so by the referee.

RULE XVI

Bout Over When. SECTION 1. The round and bout shall be terminated when "down" contestant fails to resume boxing at the expiration of 10 seconds, and referee announces decision.

Ten Seconds Indicated by Referee. SECTION 2. The 10 seconds shall be counted aloud, and the expiration of each second shall be definitely indicated by the referee.

RULE XVII

Other Questions Arising. SECTION 1. In the event of any question arising not provided for in these rules, the referee shall have full power to decide such questions, and his decision shall be final.

REFEREE RESPONSIBLE FOR TONE OF BOXING

The tone and spirit in which a contest in boxing is carried out depends entirely on the referee.

The tendency is for two boxers to infringe rules if they find out that they are boxing under a weak referee who does not know his business. Each of the contestants commences taking an unfair advantage generally because he fears that if he does not do so his opponent will. This leads to a series of foul tactics being resorted to by each side until, finally, the contest gets completely out of control and develops into anything but a clean boxing match.

That which is true in the case of a contest applies also with equal truth to boxing as a whole.

Boxing controlled by indifferent and weak referees will rapidly degenerate. On the other hand, if all contests are controlled by strict and qualified referees, then the tone and manly spirit of boxing will be raised to a high standard.

The necessity of rigidly enforcing all the rules of boxing and fair play and so keeping the game clean and manly cannot be too strongly urged upon all referees, for it is only when boxing is kept at this high standard that its inherent value for military training will be realized.

HOW TO ARRANGE TOURNAMENTS

There are two general types of tournaments: Round Robin and Elimination. In Round Robin Tournaments each individual (or team) meets every other competitor a given number of times. In Elimination Tournaments it is a case of survival of the fittest; a defeat eliminating a player or team from further competition in the tournament. The Round Robin method is the more satisfactory for use where there is a small number of competitors. The elimination method should be used only when the number of entries is too large to permit of the Round Robin method. Detailed description of each method follows:

Round Robin: In this form of tournament each individual (or team) meets every other competitor a given number of times. The different matches may be arranged in any satisfactory order. Example: Entries (teams or individuals): Nos. 1-2-3-4-5-6. In a one round tournament there would be the following:

1 vs. 2	2 vs. 3	3 vs. 4	4 vs. 5	5 vs. 6
1 vs. 3	2 vs. 4	3 vs. 5	4 vs. 6	
1 vs. 4	2 vs. 5	3 vs. 6		
1 vs. 5	2 vs. 6			
1 vs. 6				

Elimination: In this form of tournament it is a case of the survival of the fittest. A defeat eliminates a player entirely from the tournament and it finally narrows down to two players who compete for the championship.

The Bagnall-Wild system of drawing should be employed in all elimination tournaments. This system is designed to eliminate the byes in the second round.

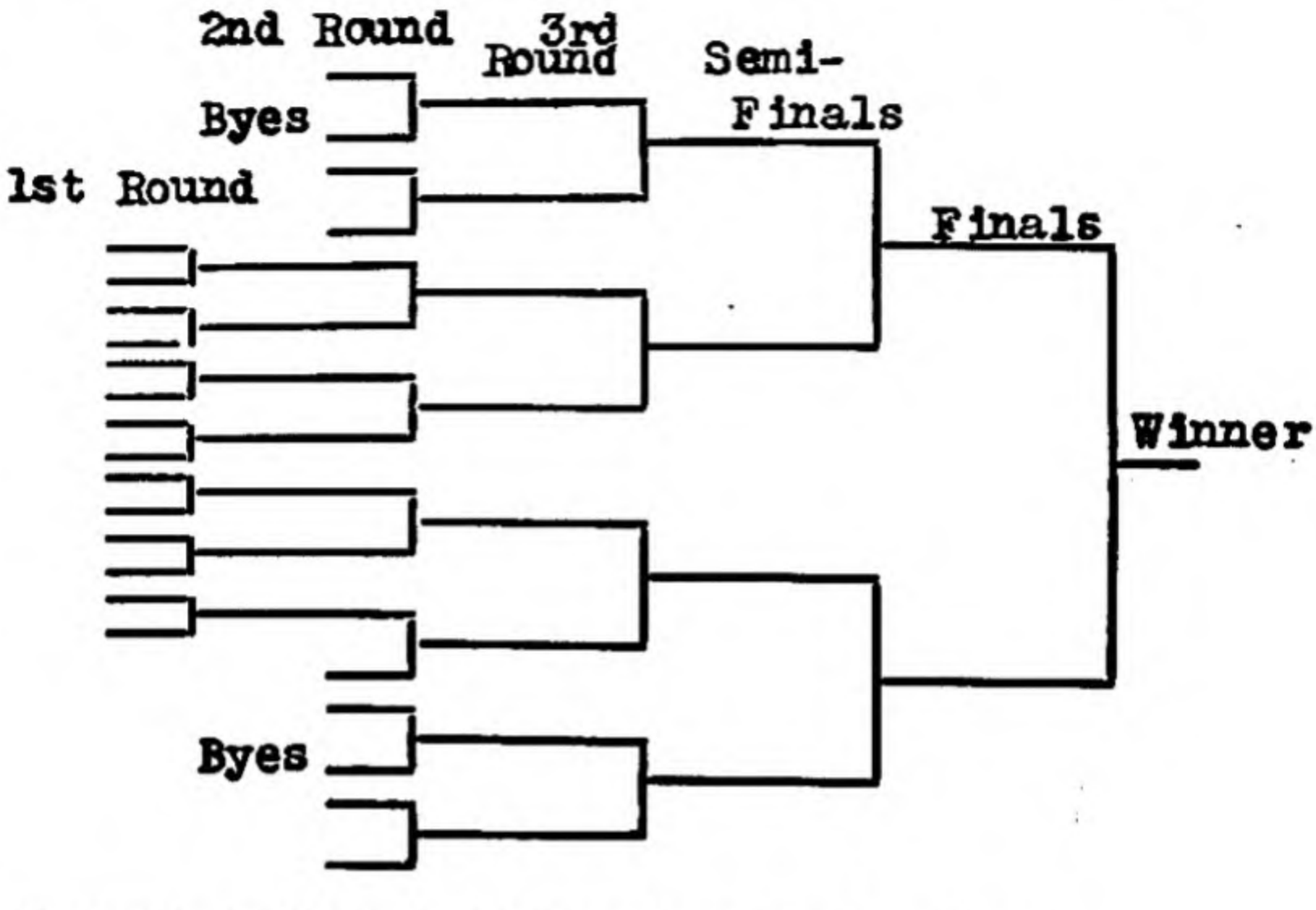
Each competitor's name is written on a separate card or paper, and these are placed in a bowl or hat, drawn out one by one at random, and copied on a list in the order in which they have been drawn according to the following scheme:

When the number of competitors is not a power of 2, there shall be byes in the second round. The number of byes shall be equal to the difference between the number of competitors and the next higher power of 2, and the number of pairs that shall meet in the first round shall be equal to the difference between the number of competitors and the next lower power of 2. The byes, if even in number, shall be divided, as the names are drawn, in equal proportions at the top and bottom of the list above and below the pairs, the first at the bottom, next at the top, and so on. The byes are drawn first. If uneven in number there shall be one more bye at the bottom than at the top.

In preparing to make the draw the number of entries are counted. If the total is 2, or a power of 2—4, 8, 16, 32, or 64—there are no byes, and the names are entered on the draw sheet in the order in which they are drawn. If the total is not 2, or a power of 2, there are byes, and the Bagnall-Wild method of drawing is resorted to; and this means nearly always, for the entries rarely total a power of 2.

The drawing diagram on page 195 will illustrate the application of the Bagnall-Wild system to a boxing tournament entry list, having an uneven number of entries. In this instance there are 23 entries. The next lower power of 2 is 16. The difference between 23 and 16 equals 7, which constitutes the number of bouts in the first round. The next higher power of 2 is 32. The difference between 32 and 23 (the number of entries)

equals 9, constituting the number of byes. As 9 is an uneven number, 4 are placed above and 5 below. The scheme is bulletined as follows:



First round. Second round. Third round. Semifinals. Finals.

SUGGESTED PROGRAMS

1. Track and Field Meet:

Intercollegiate rules, modified when necessary to meet army conditions, are usually used in conducting track and field meets.

120-yard Hurdles
100-yard Dash
440-yard Run
220-yard Low Hurdles
1-mile Relay
880-yard Relay
16-lb. Shot Put
Running High Jump
Running Broad Jump
Grenade Throw

2. Indoor Meet:

50-yard Dash
50-yard High Hurdles
440-yard Run
1-mile Relay
Running High Jump
Running Broad Jump
Indoor Shot Put

Where floor conditions do not permit of a full 50-yard dash, accommodate the distance to the space available. The potato race and the shuttle relay race may be substituted for any of the events listed above or can easily be added.

3. Mixed Program:

Rescue Race
Litter Race
Crack Squad Drill
Wagon Race—Including Hitching
Tent Pitching Contest
Tug of War
Artillery Race
Roman Riding Race
Equipment Race
Grenade Throwing
Wall Scaling or Wall Climbing by teams and by individuals
Mounted Tug of War
Mounted Push Ball
Mounted Wrestling
Mounted Rescue Race

4. Program of Mass Athletics:

Shuttle Relay Race
Shuttle Standing Broad Jump
Medicine Ball Relay
Jump Stick
Over the Top
Rescue Race
Football Passing Relay
Push Ball
Tug of War
Centipede Race

5. Events Su'table for Water Sports Program:

50-yard Swim
100-yard Swim
220-yard Swim
440-yard Swim
880-yard Swim
Long Distance Swim
Under Water Swim
Plunge for Distance
Fancy Diving for Form
Swimming on Back—50 yards
Breast Stroke Race
Tub Races
Canoe Tilting
Undressing Race
Life Saving Race
Water Polo
Diving for Plates
Harlequin Race
Chasing the Duck
Candle Race
Feet and Knees Tied Race
Canoe Race, singles and doubles

Military Events:

50-yard Swim, carrying clothes overhead;
50-yard Swim, carrying rifle overhead;
50-yard Swim, full pack and with rifle;
Rescue Race.

Canoe Tilting: Two men in a canoe, one man does the paddling. Other man equipped with a pole about 10 feet in length, with a big blob attached to it. At the signal canoes are rushed at each other and manwith the blob goes to work. Object is to knock the other man off his balance or into the water.

Tub Race: Any distance. Contestants are seated in tubs and paddle to a given point. Man who arrives first in his tub wins whether his tub is full of water or free from it.

Water Polo: 6 men to a team. Two goal signs at either end of, preferably, a 60-foot enclosure. At a signal men dive from the starting point as the ball is thrown into the exact center. Object is to score a goal by touching the goal boards. Usually 5 or 8 minute halves with a 5 minute rest. A man cannot be tackled unless he is within 4 feet of the ball. Man cannot enter a 4-foot line ahead of the ball to tackle a goal keeper, of which there are two and a half back. These 3 men defend the goal. Other 3 men are known as forwards, right and left, and center. A referee and judges at each goal constitute the officials needed. All kinds of tackling are allowed. Ball must not be carried under water.*

Diving for Plates: A number of plates are thrown into the water. Each contestant has three dives. Man who brings up the largest number of plates at one time wins.

Harlequin Race: Usually women's suits, including stockings and bathing caps. Pajamas or nightshirts will do in a pinch. Clothes are laid out on a raft or similar place out of the water. Contestants leave a mark together, swim to the place where the clothes are, put on the clothes, and return. The man who gets back to starting point first properly dressed wins.

Chasing the Duck: A live duck is turned loose. All starters dive and try to catch him.

*For detailed description consult "Official Guide" American Swimming Association.

Candle Race: Men with lighted candles swim to a given point. First man arriving with candle lighted wins.

Umbrella Race: Men dive off with umbrellas. Open them in water and swim to a given point.

Feet and Knees Tied: As the name would suggest—any distance.

Rescue Race: Teams of two. One man appears to be drowning and signals and shouts for help. Rescue is made. First man home with his charge wins.

Long Distance Race: Any given distance but not over a mile. It requires the hardest kind of training to be fit for swimming races, and army men usually do not have the facilities or the time for such strict and consistent training. A boat should accompany each contestant in a long race and life rings and medical aid should be near at all swimming meets. Exhaustion is a common occurrence and aid may be necessary. It is therefore well to encourage shorter events and novelty races.

6. Cavalry Events: A gymkhana.

British troops stationed at Rurki in India, in 1861, originated gymkhana sports to dispell the monotony in their cantonment life. Since that time the gymkhana has become popular in the armies of Great Britain and the United States alike.

Ordinarily gymkhanas are of two kinds: One, a race meeting on a small scale in which any sort of horse takes part to make up a card and in which the races are generally catch weights; the second type of gymkhana is a variety of what are formally called the "Pagal" (foolish or amusing) gymkhana, in which, besides the usual horse and pony races, other competitions for men and women, mounted and dismounted, were introduced.

The following program is of the second type:

Country Store Race: Open to couples of one lady and one gentleman. The gentleman mounted at scratch with a list of articles to be obtained at store. He rides 100 yards to partner, dismounts and presents lists to be filled by partner who obtains the necessary articles from the store, remounts and rides back to scratch. Lists checked by judges.

Rescue Race: Open to couples of one lady and one gentleman. A gentleman mounted at scratch, leading one horse, rides 100 yards to partner. At this point, where saddle and bridle for extra horse will be placed, extra horse will be saddled and bridled. Couple then ride back to finish.

Bending Race: Eight wands. Mounted competitors canter in and out between rows of wands driven into the ground and placed at convenient distances apart in two parallel lines. The competitor must make the ride without touching a post.

Aunt Sally Race: Performed by two men and two women riding from the starting point to a fixed place, where the man dismounts his partner and holds partner's horse while the partner throws stones at four empty bottles. The moment the bottles are broken, the women are remounted and the partners ride back to the base.

Camouflage Race: Open to couples of one lady and one gentleman. Contestants mounted at scratch ride 100 yards where they will be furnished with one sheet, two white trouser legs, and three safety pins. The sheets and trouser legs will be properly camouflaged. The sheets will be placed on the mounts under the saddles, fully spread out and pinned under the horses' necks. The two trouser legs will be put on front legs of gentleman's mount and pinned to the sheet. Contestants mount and ride to the finish.

Stake Race: Contestants ride to a stake placed at suitable distance from the starting line, pass around the stake, and return to starting line.

Tent Packing Contest: Usual rules governing this event should be followed.

Cigarette and Umbrella Race: Open to couples of one lady and one gentleman. Couples mounted at scratch ride 100 yards. Lady rolls cigarette and hands it to partner who lights it. Both ride back to scratch. The cigarette must be lighted at the finish. The gentleman carries a closed umbrella the first 100 yards and opens it before he starts to ride back to the finish.

Tennis Ball Race: Open to couples of one lady and one gentleman. Couples mounted at scratch, lady balancing ball on racket, ride prescribed course. When ball falls off it is replaced by partner, who must be mounted when it is replaced. The gentleman must not move forward with the ball in his possession.

ADDITIONAL SUGGESTIONS FOR GYMKHANA EVENTS

Mounted:

Mounted Potato Race
Mounted Rescue Race
Mounted Wrestling
Mule Race
Guidon Relay Race
Escort Wagon Race
Mounted Tug of War
Machine Gun Race
Saddling Race
Mounted Football Race
Saturday to Monday Race
Tilting the Ring

Dismounted:

Potato Race
Egg and Spoon Race
Three Legged Race
Band Race
Sack Race
Obstacle Race
Wheelbarrow Race
Tent Pitching
Ammunition Carrying Race
Tug of War
Pajama Race

CHAPTER XIII

Strategy and Tactics of Highly Organized Athletic Games

Experience has shown that no activity, except actual participation in battle, does so much as well organized and conducted athletic competitions to build up *esprit de corps* and to instill into an organization a feeling of unity and loyalty. Because of the great training value of highly organized athletic games, every means should be employed to promote participation by every soldier.

Football is a great military game. Every officer would benefit by actual football playing experience. There is no other game which stimulates to so marked a degree the development of team work so that every competitor functions as an integral part of a moving force in meeting and overcoming various kinds of opposition. Every man has a regular job to do, and at the same time he must make his efforts dovetail in a machine-like way with those of his team mates.

Methods are illustrated in the football material which follows, whereby the game can be played in the regular supervised athletic period by large numbers of men and without the necessity for special football equipment.

The ability to swim in full military equipment is, under certain conditions, of the greatest military value. Many lives have been unnecessarily lost as a result of inability to swim and of the panic which, in spite of discipline, seizes upon non-swimmers who are attempting to cross a deep or swiftly rushing stream. Most men do not realize the fact that it is not only possible but relatively easy to swim in full marching equipment. The confidence which is engendered as a result of actual training and experience in the water not only contributes to the soldier's efficiency and morale when it is necessary to cross streams under service conditions, but also results in saving many lives.

The material in this section was prepared for the Special Course in Physical and Bayonet Training conducted during September, 1919, at Camp Benning, Georgia, by experts of national reputation in each branch of sport. These special instructors were not only authorities in the games with which they dealt, but they were also unusually well qualified by previous experience to adapt the program of training in the various games so that their inherent values as a part of military training could be brought out and made available for use under army conditions.

A—STRATEGY AND TACTICS OF FOOTBALL *

The following principles of the strategy and tactics of football are applicable both for use in the period on the day's schedule devoted to supervised games and athletics and also to recreative football. There is military training value in playing football and this should be extended to all of the men in the army. When football is played as an activity under the head of supervised games and athletics no equipment is needed except the footballs, consequently tackling and falling on the ball should be eliminated. For the company, regimental and camp teams uniforms should be provided but for the required football the work should be so modified as to permit of playing in the service uniform.

Among the things which may be taught on the drill field to the men in service uniforms are the following: Charging position in the line, charging both with and without opposition, blocking in the line, line defense to teach use of hands, starting for backs and ends, handling, ball kicking, passing and snapping ball, team play with touching scrimmage.

Only the rudiments of football are suggested in this manual, first, because fundamental football constitutes the most important part of the game and, second, because it is only possible in this limited space to treat of a few essentials. In the foot-

* Prepared by Major John L. Griffith.

ball which will be taught to the troops on the drill field it is well to insist that each man be taught each of the positions and the duties pertaining to each. The object of this training is not to develop teams or star players but rather to develop the platoon or company.

FUNDAMENTALS OF LINE PLAY

Charging Position of Line Men: Men on right side of center stand with feet well apart with right foot slightly behind left

FIG. 132.

foot. Men on left side of center place left foot behind. Stand on balls of feet. If left foot is behind, the left hand should rest on the ground and the other hand or forearm should rest on the right knee. If on right side of center, position of hands and feet is reversed. The body should be well forward with the buttocks lower than the shoulders, back straight, eyes on opponent watching ball out of corner of the eye.

Charging: Fast charging is one of the most important requirements of a football line man. Every man should be taught to start fast from a charging position. Form men in charging position with seven men on the line and one man behind to receive the ball. Center snaps ball back between his legs to one man who is behind center who catches the pass. As the ball is passed back, the seven men on the line charge forward

for five yards then again form a line. The line should be straight and no man on either side of center should have his hands, feet or head in front of a line at right angles with the back end of the ball. In charging the first two steps should be short and fast. The body is lunged forward. Avoid straightening up when charging. This work should be repeated frequently, changing positions (Fig. 132).

Fig. 133.

Blocking: Blocking in the line consists of throwing the body against opponent in charging in such a way as to drive him back, turn him to one side, or to body check him to prevent his breaking through. There are a great many methods of blocking in the line. The simplest only are suggested and these blocks will usually be found sufficient.

1. Straight Block: At the charging signal drive body straight forward with shoulder against opponent's thigh. The head should be held tight against his leg. Keep feet wide apart and well braced and push him back with the drive from legs and body. Do not use hands or arms (Fig. 133).

2. Block to Left: Step sharply to right with right foot and drive body to left with shoulder against opponent's thigh. If

he evades you, throw body at his knees with back of legs obstructing his legs. The body should cover as much ground as possible in front of opposing line man to block his progress. If he steps back roll with him and keep obstructing him until ball is dead (Fig. 134).

FIG. 134.

3. Block to Right: In this instance, follow instructions as outlined under Block to Left except that step should be taken to left and the right shoulder is used in blocking his right thigh. Keep feet well braced and wide apart (Fig. 135).

FIG. 135.

Defense in Line: In a game of football each line man matches his wits against the wits of the opposing line man. On offense each line man may have to vary his style depending upon whether his opponent plays high or low, wide or close, is fast or slow. In fact, so many factors enter into his methods of attack that the battle of wits in the line, which is usually missed by the spectators, is very often the most important factor in playing a game. Consequently,

FIG. 136.

it is not possible in the short space allotted to football to describe all of the defensive methods which will be used in the line. The following are suggested as fundamentally correct:

FIG. 137.

1. **Straight Block:** As the ball is snapped back charge straight forward with hands under opponent's shoulders, arms stiff, back low, legs well spread and braced, the object being to drive opponent backward. If the man on defense succeeds in this he is in position to fill the hole on either side of his opponent if the play comes that way. In order to successfully consummate this play the man on defense should start from a low position and should have his hands well in front of him when the ball is passed.

2. **Turn to Side:** If opponent charges from the right, drive

left hand to his head and right hand to his right shoulder turning him away from defensive man's legs, then grasp him by right lower leg and throw him back into the play (Fig. 136).

3. Pull Forward: When the opponent is lunging in such a way that he cannot keep his balance, grasp him by back of head, pull him forward, at same time step to the side and avoid his leg trip. If opponent charges with shoulders low and buttocks high this method will be found effective (Fig. 137).

FUNDAMENTALS OF BACK FIELD PLAY

Starting Position: Place feet on a line parallel with the scrimmage line. Rest weight on balls of the feet and assume a

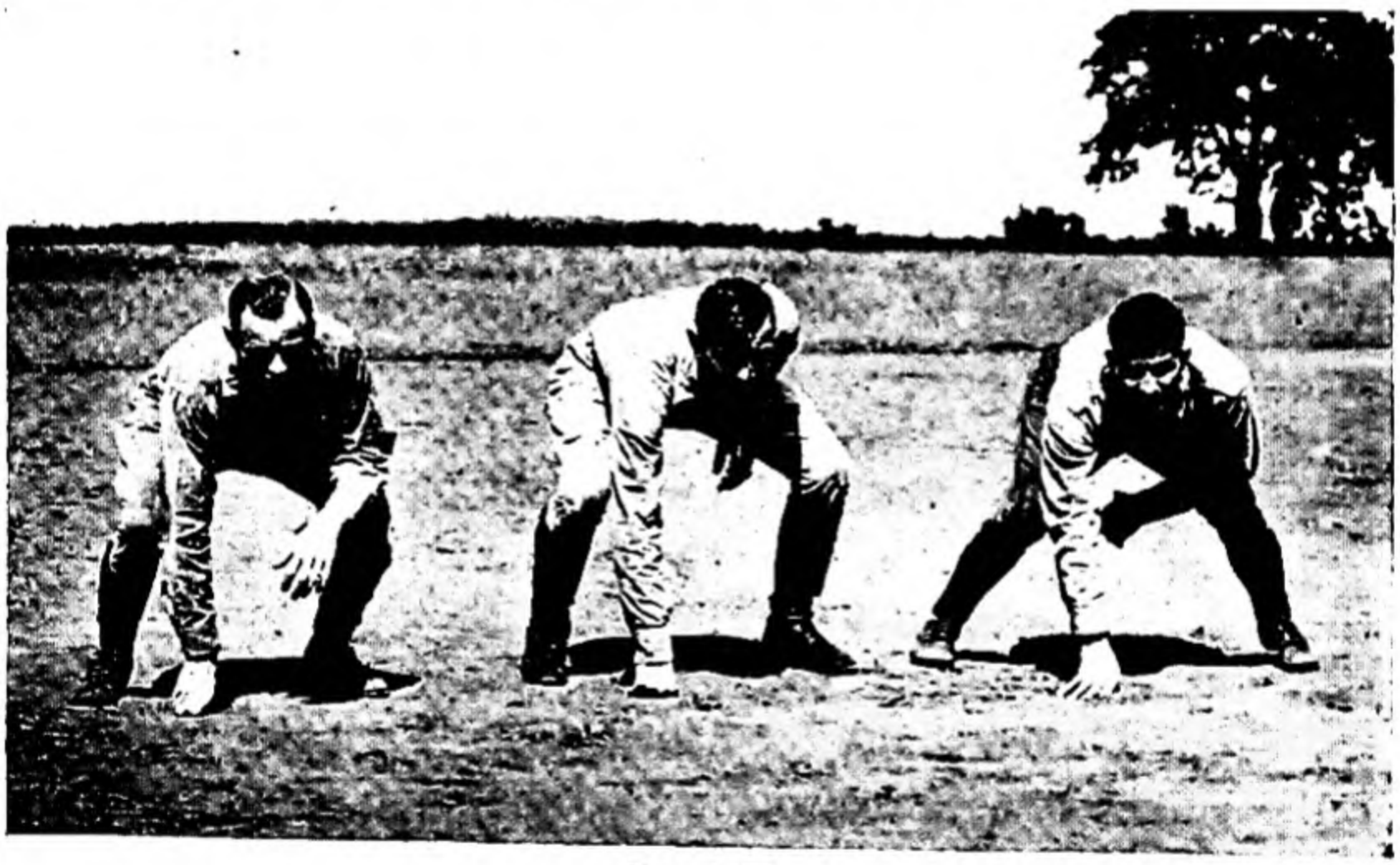


FIG. 138.

crouching position with the weight resting lightly on the hands. Avoid inclining body in direction of the start and keep eyes to the front. When charging signal is given practice getting started as quickly as possible. The first step should be short and the body should not be raised until after the line is passed. Bend body at the hips and run with feet well spread. This start should be practiced by all men in the platoon in the same manner that line charging is practiced (Fig. 138).

Receiving the Ball. 1. Direct from Center: The snapper back floats ball back to the man who is starting from the left

halfback's position. It should be passed so that the runner gets the ball low and in front of him. Do not allow man receiving ball either to straighten up in catching ball or to slow up to receive it. The squad should be formed as follows for the purpose of practicing this pass:

FIG. 139.

Center
X

0 7
0 6
0 5
0 4 — 0 1
0 3
0 2

No. 1 catches ball in manner described above, then returns ball to center and takes place in file occupied by 7, who steps up into the position previously occupied by 6 who has moved up into place formerly held by 5. No. 2 takes ball next from halfback position. Continue this practice until all the men can take the ball properly in this manner and then shift the file to the right and have the pass made to the left. Change centers frequently (Fig. 139).

2. From Quarterback for Line Buck: Use same formation as outlined above with exception that one man acts as quarterback and passes ball to the men for a straight buck in turn. In taking the ball the man receiving it starts from the position described in preceding paragraph on starting position. He should keep his arms down by his legs until the quarter slaps the ball into the pit of his stomach—when he folds his arms over the ball keeping tight hold with his hands. Insist that he carry ball in this manner for five yards before he returns it to the center as described in above paragraph. The man receiving the ball from the quarterback must keep his back bent at the hips and must not straighten up either upon receiving the ball or upon reaching imaginary scrimmage line. Men should

not run in toward the center to get the ball. Practice this on both right and left side and change centers and quarters frequently (Fig. 140).

For End Run, Quarterback Passing Ball: Use same formation as described above. The quarter should toss ball to halfback and then should run ahead in the interference. The quarter should pass ball to the belt line using both hands to pass with. The motion used in making this pass is a long sweeping motion. Receiver keeps low, and if running around

Fig. 140.

right end places ball under right arm with left arm free for stiff arm (See Fig. 142). If the start is from the right for a run around the left end the ball should be held under the left arm (Fig. 141).

4. For a Punt: Use same formation as outlined in paragraph (1) direct from center, except that man receiving the ball stands directly back of center and about eight yards back. Practice pass for a kick and for runs both to right and left. In the runs the ball should be passed to the side so that the runner will have to catch it while at full speed. The man behind center stands erect with left foot forward as in kicking. He should start from the same position when making the run.

Body Checking: 1. High Block. When a back runs interference using the high block the hands are held tightly against the body with the elbows extended to the side. The object is

FIG. 141.

FIG. 142.

to block a man on defense to keep him from getting at the man with the ball. To practice this have one man pass the ball from center, another assume position of left halfback to carry

ball, another position of right half to run as an interferer and another to act as left end on defense, thus:

```
                                        1
                                        0
                    2
                    x
0 8
0 7
0 6 4                           3
0 5 0                           0
```

1—end on defense. 2—center. 3 runs interference using high block against 1, 4 catches ball from center and follows 3 for short run. 1 does not tackle 4 but attempts to tag him (Fig. 143).

Fig. 143.

2. Low Block: Throw body lengthwise across body of man on defense. Stretch arms and legs at full length so as to make blocking surface as great as possible. The side of the man blocking hits the man on defense at waist line. Do not attempt this from a run when men are dressed in regulation uniform, but practice from a standing position (Figs. 144 and 145).

Fig. 144.

Fig. 145.

Passing from Center: Center holds ball firmly on ground with hands well upon front end of the ball, one hand on each side. When passing to quarter the ball should be passed quickly back to the quarter, who takes the ball with one hand below the ball and one on the upper side. In snapping back for a direct pass to a halfback running around end the ball is passed so that the runner will have to reach for it on the run, but the pass should be so timed that the runner will be able to catch it. In passing back for a punt or a run from a punt formation pass the ball end-over-end rather than by spiraling it (Fig. 146).

FIG. 146.

Forward Passing: Lay the ball on the hand, with the back end of the ball rather than the center of the ball on the hand. The fingers should be over the lacing. Use the overhand motion and throw with a snap of the wrist, causing the ball to spiral in its flight. Practice first passing the ball a short distance before attempting long passes. First teach each man in the squad how to hold the ball and how to throw it, by forming the squad in open ranks, the front rank facing the rear rank with a fifteen-yard interval. Each man passes across the interval to one of the men opposite. After they have learned to pass to a fixed target teach passing to a moving target, using the following formation:

2 1

x 0

0 3

0 4

0 5

0 6 0 8

0 7

When the center snaps the ball back to 8, who takes it on the run to the right, 1 runs down the field. 8 receives ball from center, runs to right and passes to 1, who catches it over his right shoulder. The file moves up and the passing is repeated until every man in the squad has learned to forward pass properly (Fig. 147).

Kicking: The kick off is practiced by having one man practice kicking off to the other seven, who are spread out down the field. The kick off is practiced thus: Place ball on ground on one end with top end slanting toward kicker. Loose dirt can be used to form a pocket for holding the ball in position. The kicker should take five or six steps running toward ball and kick it while it is resting in this pocket. At first do not attempt long kicks but practice accurate kicking. Each man on squad should practice this kick many times. The other men on the squad catch the ball and return it to the kicker.

FIG. 147.

The punt is made by dropping ball on the instep of the kicking foot as the leg is swung forward. A right-footed kicker stands with left foot forward, then takes one step with the right foot and one with the left, then kicks with the right foot. The foot should follow through, and all preliminary practice should be devoted to accurate kicking rather than to distance kicking. Practice this the same as in kick off. The ball should be held with the hands on the two sides, and great care should be exercised in dropping it so as not to give it a twist at the moment of release. As soon as straight punting is

mastered the men should be taught to swing the leg with a side motion so as to give a longer arc in the kick, and later spiral kicking should be practiced. The spiral is given to the ball by a twist of the ankle and toe at the instant the ball leaves the shoe.

After learning to kick a ball set on one end on the ground, and to punt, teach the men on each squad to drop kick. The drop kick is made by dropping the ball on the ground and kicking it the instant it bounces off the ground. The ball should be dropped on one end and the shoe should meet the lower end of the ball.

To practice place kicking have one man hold the ball while the man holding it is lying flat on the ground with his arms extended, the ball held resting lightly on the first and second fingers of the lower hand. The fingers should be well spread. As the kicker runs forward to kick the ball the man holding it should press down with the upper hand and at the same time quickly pull the lower hand out from under. Great care should be exercised in keeping the ball straight as the hand is withdrawn. The ball should be slightly inclined toward the kicker. The man kicking should measure the distance required for the swing of his leg by standing on his left foot and swinging his right foot against the spot on the ball where he is going to kick the ball. He should then mark the place where his left foot will stand and should take as few steps as possible in his run to the ball. As an aid to accurate kicking draw a line on the ground and swing the kicking leg on this line. Never take the eyes away from the ball when kicking until after the kick has been made.

Catching the Ball: Kicked balls should be caught with hands upreached for the ball which should touch the hands before it touches the arms. At the moment the ball strikes the hands pull them in toward the body. Do not catch ball in the arms.

Forward passes are caught over the shoulder of the receiver of the pass with the back toward the most dangerous defensive man.

Picking up Ground Balls: Form squad in a circle and place ball in center. Each man in turn runs forward picking up ball on the run and then in turn places it on the ground for the next man. Practice this until every man has learned to pick up the ball without slowing up. In picking up ball both hands should be used and the receiver should run with his body low to the ground and with feet well spread.

EQUIPMENT

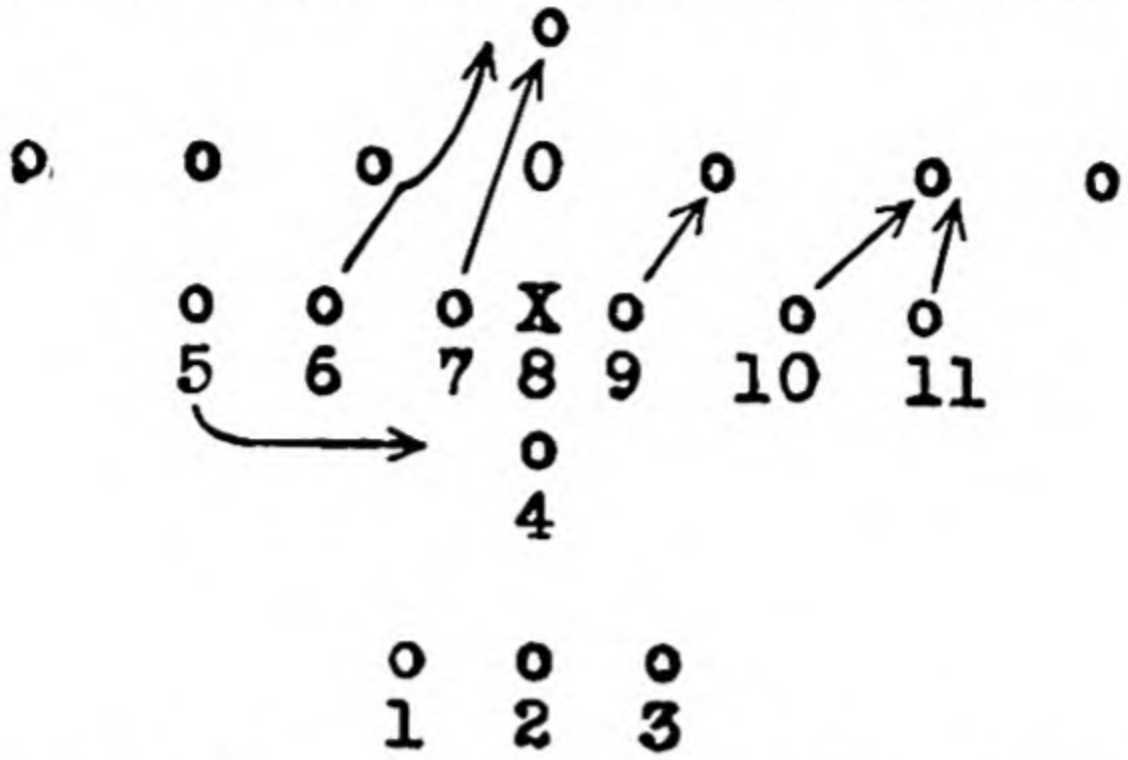
The strategy and tactics of football should be taught in such a way that the men will not require football uniforms and so that they will not tear their service uniforms. Further, it is impracticable to provide tackling dummies and other paraphernalia which is commonly used in developing teams. All the equipment which is required consists of a few Rugby footballs. Where it is possible use charging sled long enough to permit eight men abreast to charge against it. These can be easily constructed so that every company play area will have one.

THEORY AND DEMONSTRATION OF OFFENSE

1. The first thing to learn on offensive is that 90% of the success of the offensive play depends upon the execution of the play rather than upon the play itself. The winning football team is always composed of men who can block and charge and tackle and handle the ball properly. In fact, such a team will win with a few simple well executed plays. As a rule a team which has devoted most of its time to mastering team play, intricate signals, and a large number of plays will have neglected the fundamentals, and further the players will have become imbued with the idea that they can win by strategy rather than by hard work. Consequently, a simple style of offense is suggested as a basis upon which to build.

2. **Normal Offense:** This is the simplest formation and the

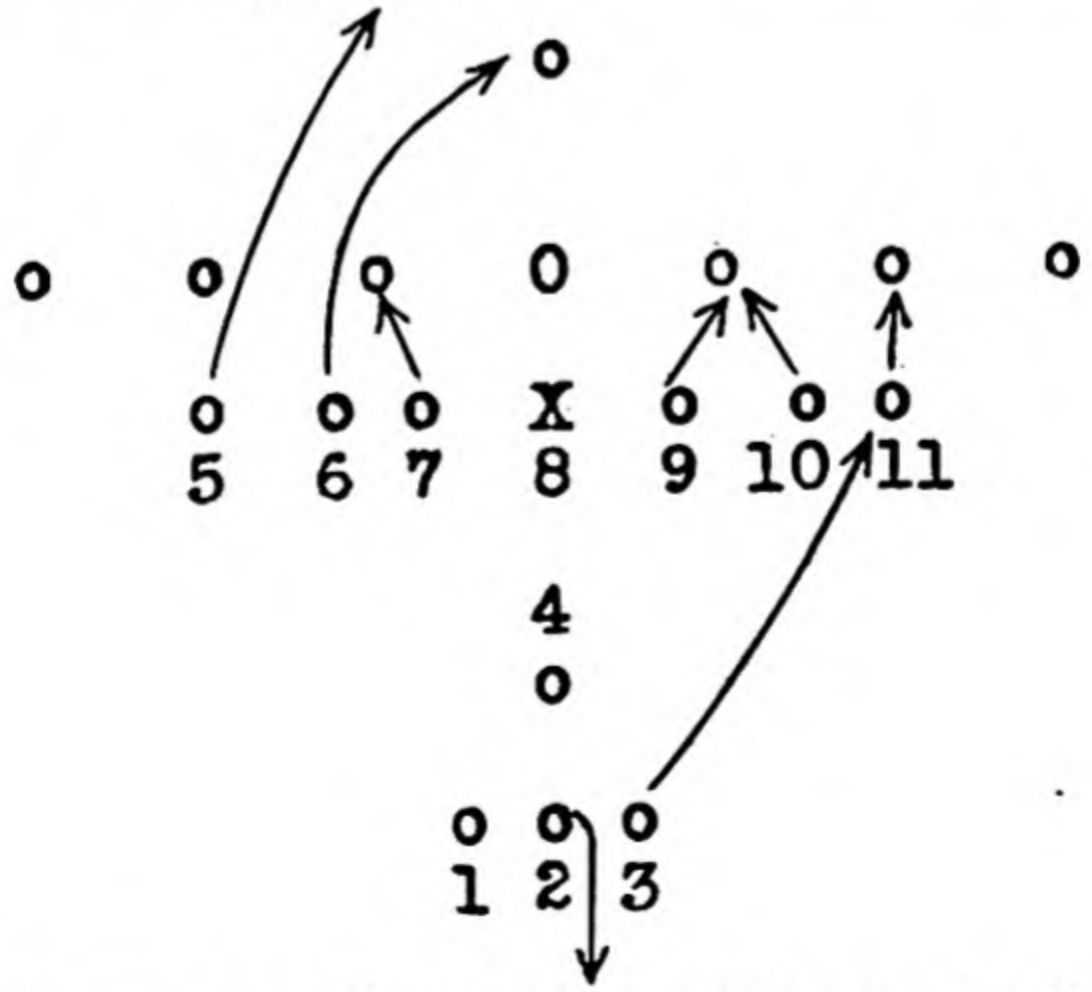
easiest learned. Two end runs, two bucks, and one forward pass are suggested from this formation, as follows:



Run to right 10 and 11 block tackle, 9 blocks guard, 8 passes ball then blocks center, 7 attempts to block full back, 6 blocks guard then attempts to block off most dangerous defensive man, 5 follows behind watching for fumbles, 4 passes ball to 1 and runs in interference blocking off any man who breaks through line, 3 blocks left end on defense, 2 runs interference for 1. The play goes off offensive right tackle. 1 takes ball from 4 and drives hard over tackle.

Run to left. Same as run to right with conditions reversed.

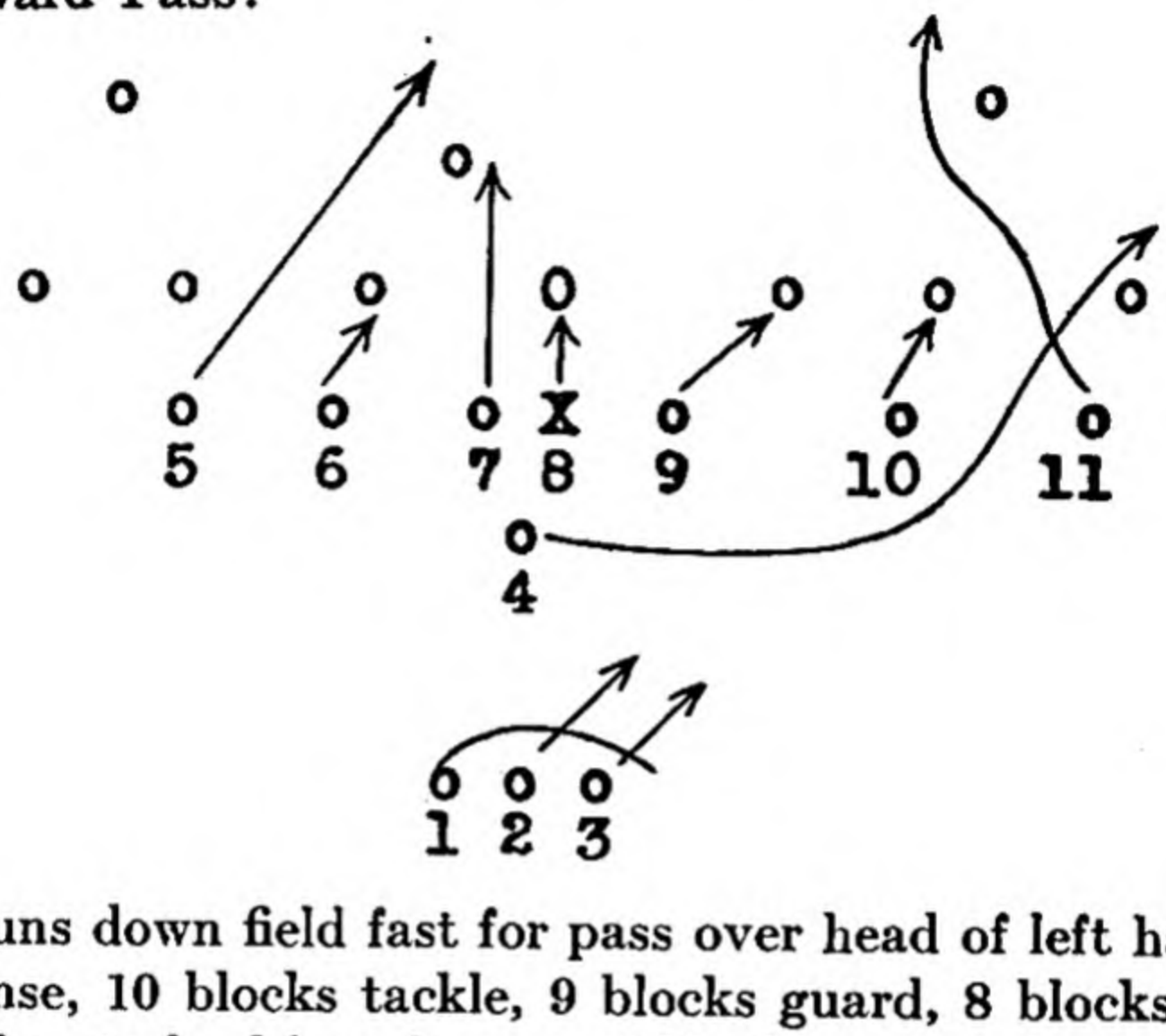
Buck Through Right Side:



9 and 10 block opposing guard, 11 blocks tackle, 8 blocks center, 7 blocks guard, 5 and 6 break through to block off de-

fensive backs, 4 passes ball to 3 who drives forward over opposing guard taking the hole on either side wherever it opens, 2 runs back with the passing of the ball as though for a pass, and 1 watches for a fumble.

Forward Pass:



11 runs down field fast for pass over head of left half-back on defense, 10 blocks tackle, 9 blocks guard, 8 blocks center, 7 goes thru to lead interference, 6 blocks tackle, 5 goes behind full back for pass, 2 and 3 protect 1 who receives ball on direct pass for forward pass to 4, 11 or 5.

3. **Shift to Right (left):** Preliminary shift. 7 and 9 step back on line with 4.

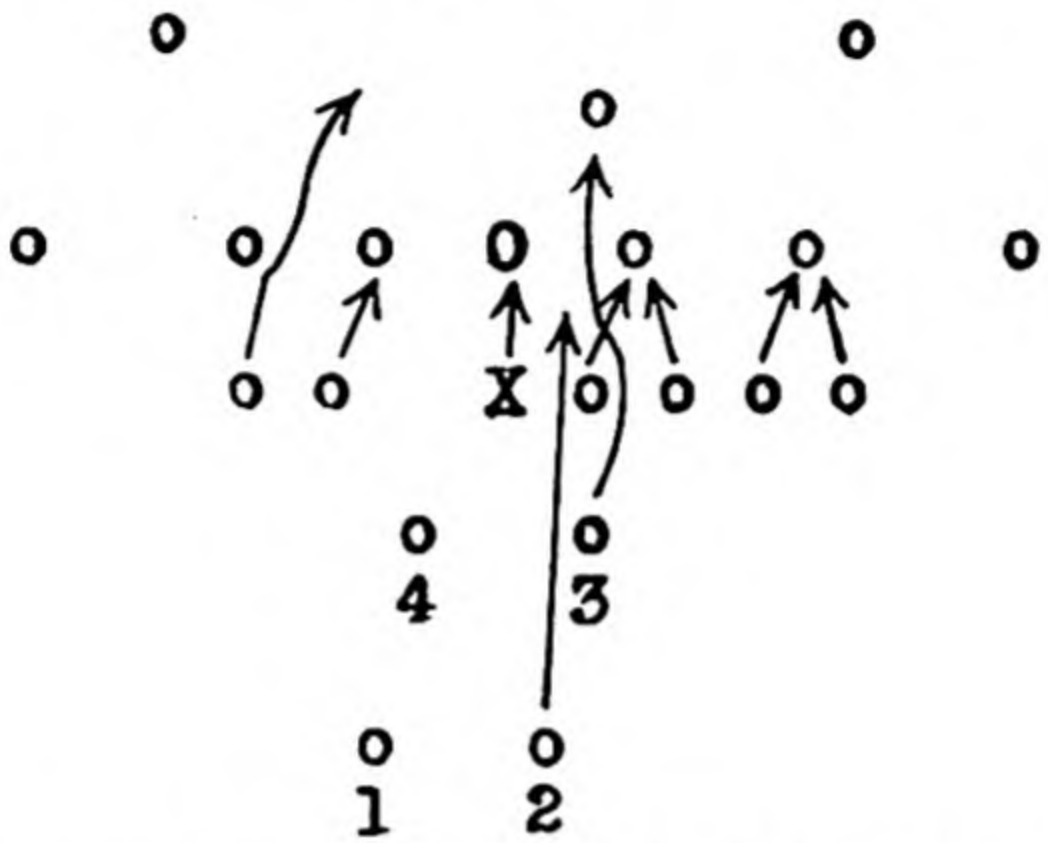
```
o   *   X   *   o
5   6   8   10  11

    o   o   o
    7   4   9

    o   o   o
    1   2   3
```

*** Space between tackles and center open.**

When signal is given 11 shifts outside of opposing tackle and 7 and 9 shift into line between 10 and 8, 10 shifts to right

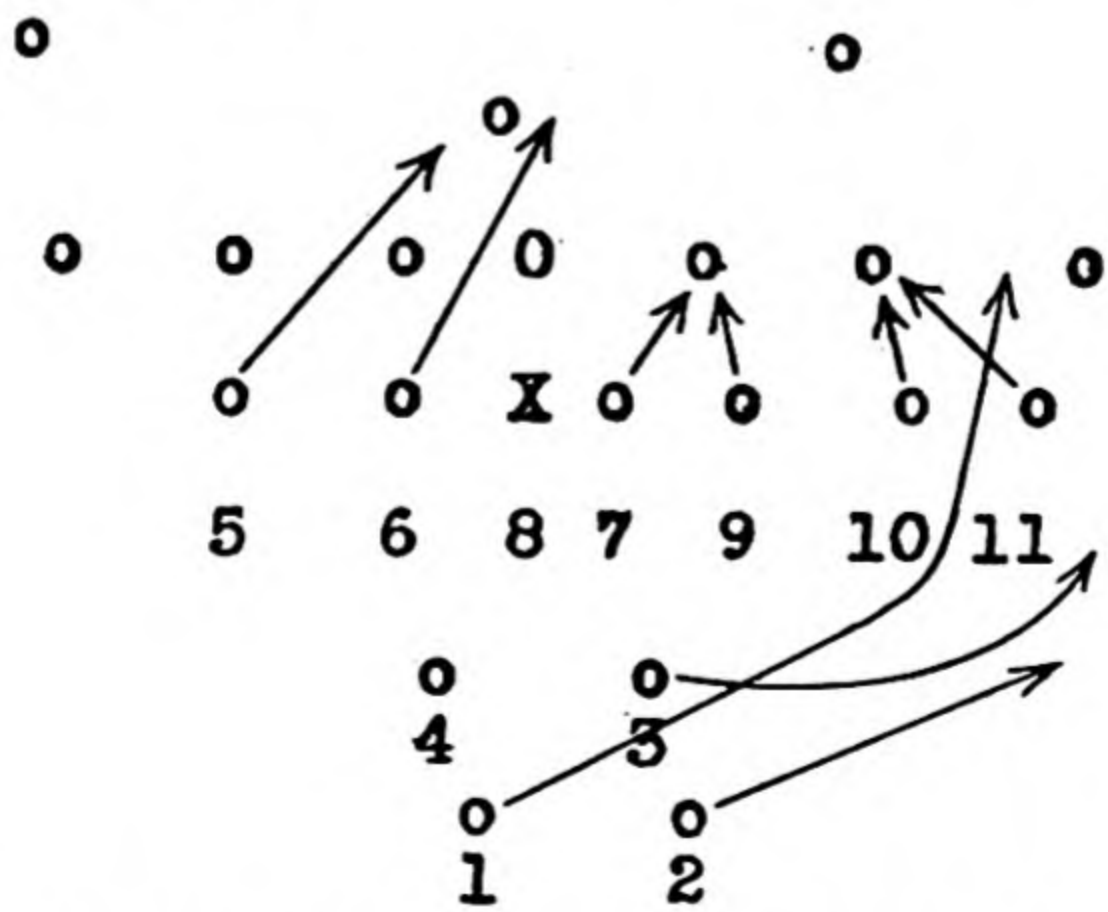
to make room for 7 and 9, 6 shifts over to fill the place left vacant by 7 and 5 takes position previously occupied by 6, 4 steps to left one pace, 3 shifts upon line with 4, one yard behind space between 7 and 9, 2 takes position two yards behind 3, and 1 moves over on a line with 2 directly behind 8.

Line Buck on Shift to Right:



7 and 9 shift on signal into line and when the ball is passed, block opposing guard, 10 and 11 block tackle, 8 takes center, 6 blocks guard and 5 blocks tackle and then attempts to block full back, 3 leads play through hole made by 7 and 9, and 2 takes ball from quarter and follows 3, 1 watches for fumble.

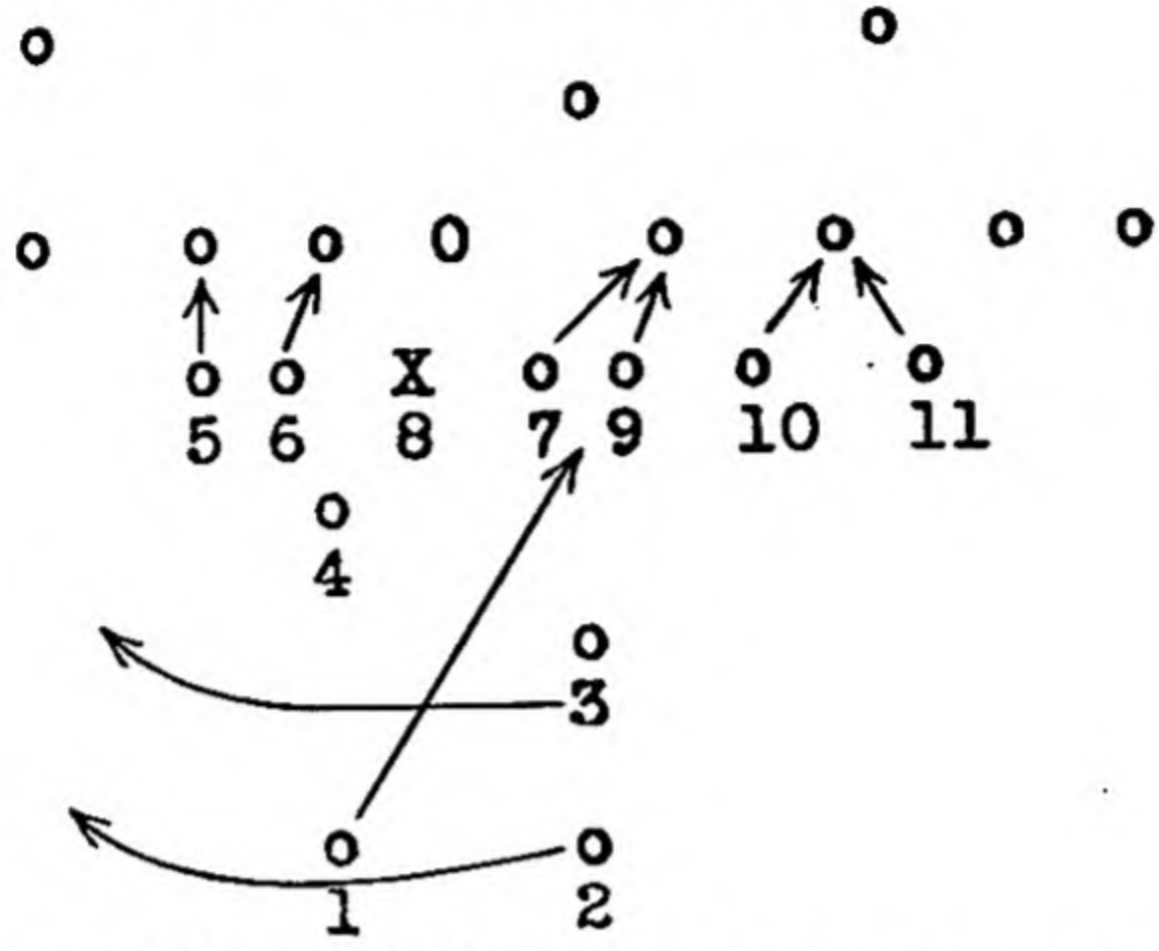
End Run to Right:



10 and 11 block tackle, 7 and 9 block guard, 8 blocks center, 6 blocks guard then gets in front of play, 5 blocks opposing

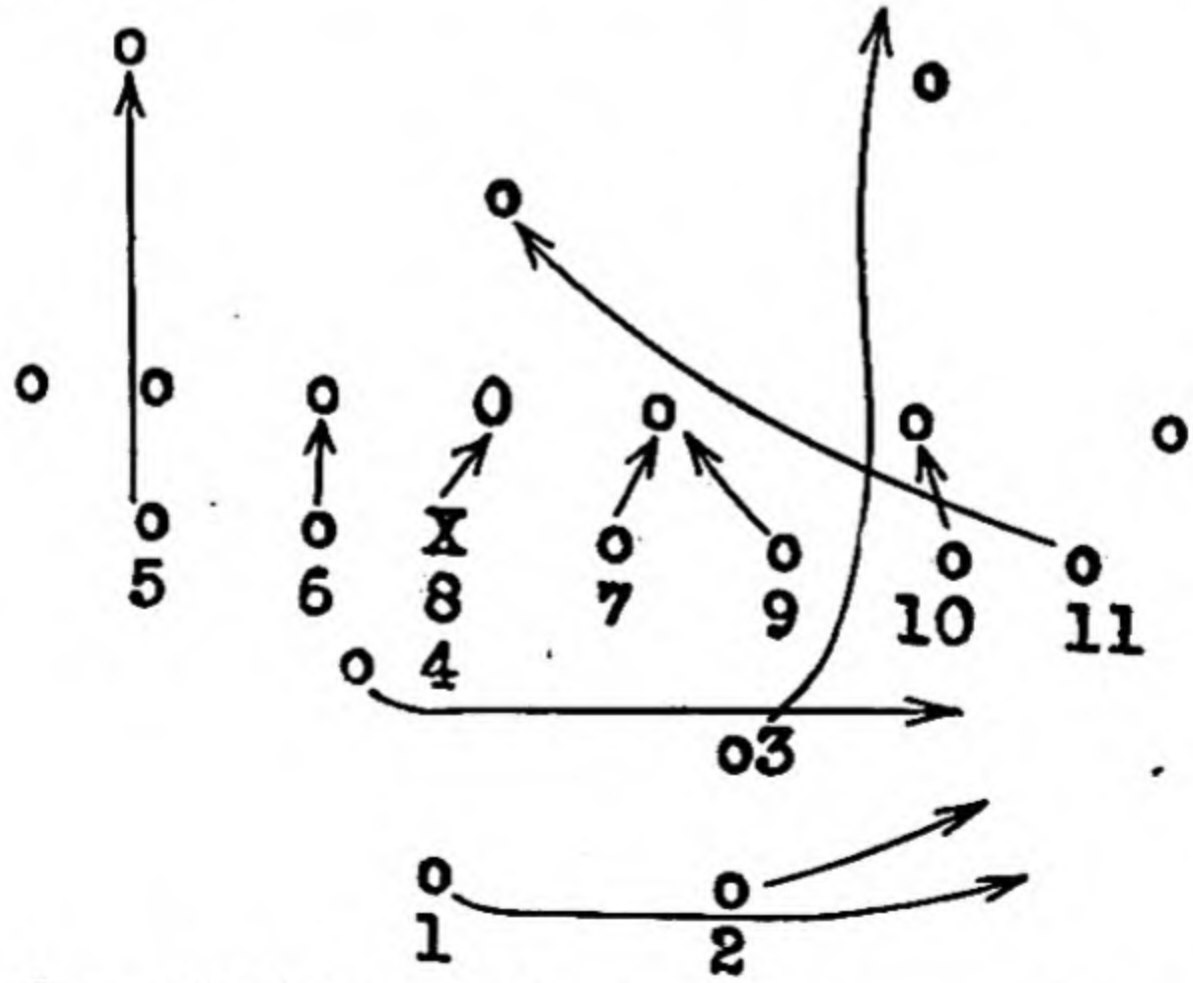
fullback, 2 and 3 block end out, 1 takes ball on direct pass and carries ball over right tackle, 4 follows play and watches for fumble.

Delayed Pass for Run on Short Side:



5 blocks tackle, 6 blocks guard, 8 blocks center, 7 and 9 block guard, 10 and 11 block tackle, 3 fakes to take ball from quarter for run around end but instead blocks right end, 1 fakes to take ball from quarter for buck through right guard and 2 takes ball for run to left with 4 running his interference.

Forward Pass:

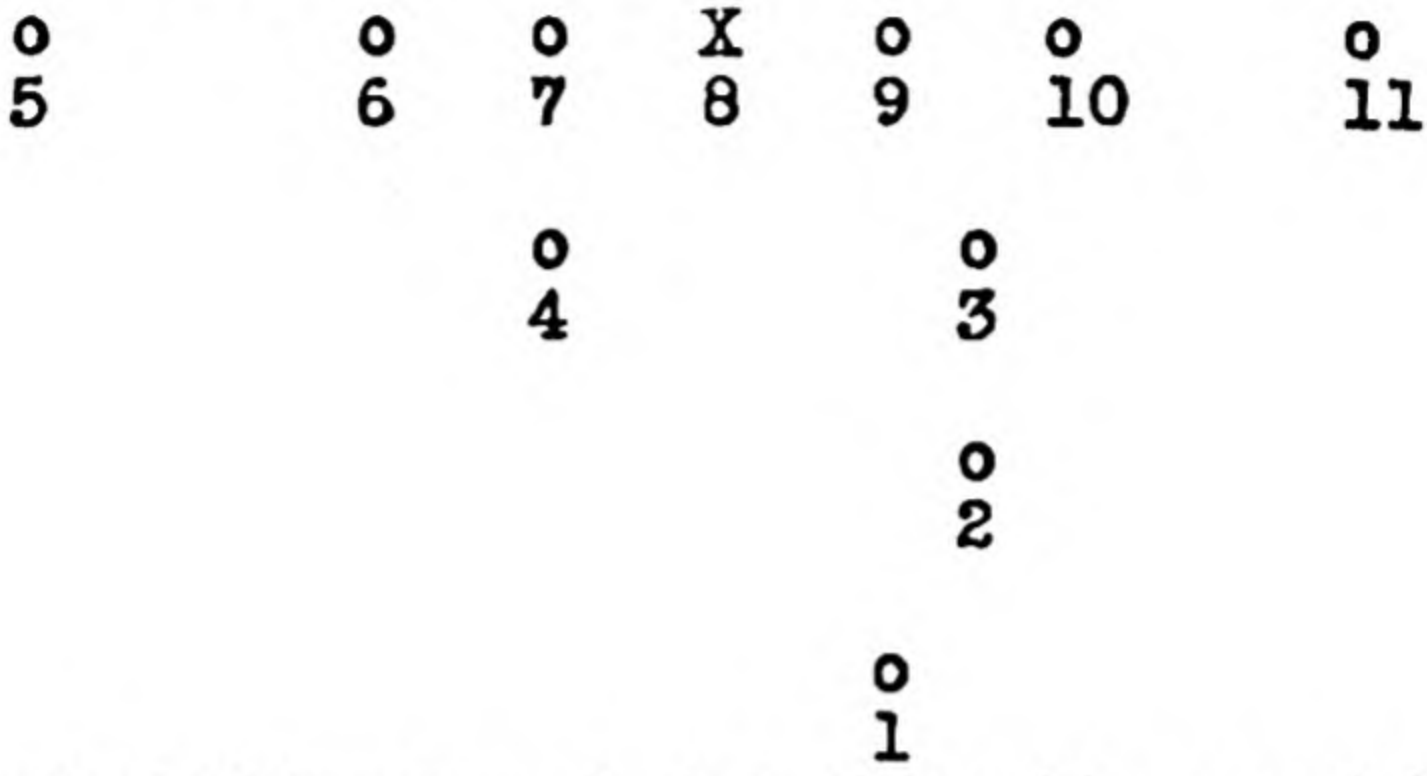


5 runs down field to receive forward pass, 6 blocks guard, 8 blocks center, 7 blocks guard, 9 and 10 block tackle, and 11

runs back of fullback for pass, 3 runs down field back of left half on defense for pass, 4 and 2 protect 1, who takes ball on direct pass from center and forward passes to 5, 3 or 11.

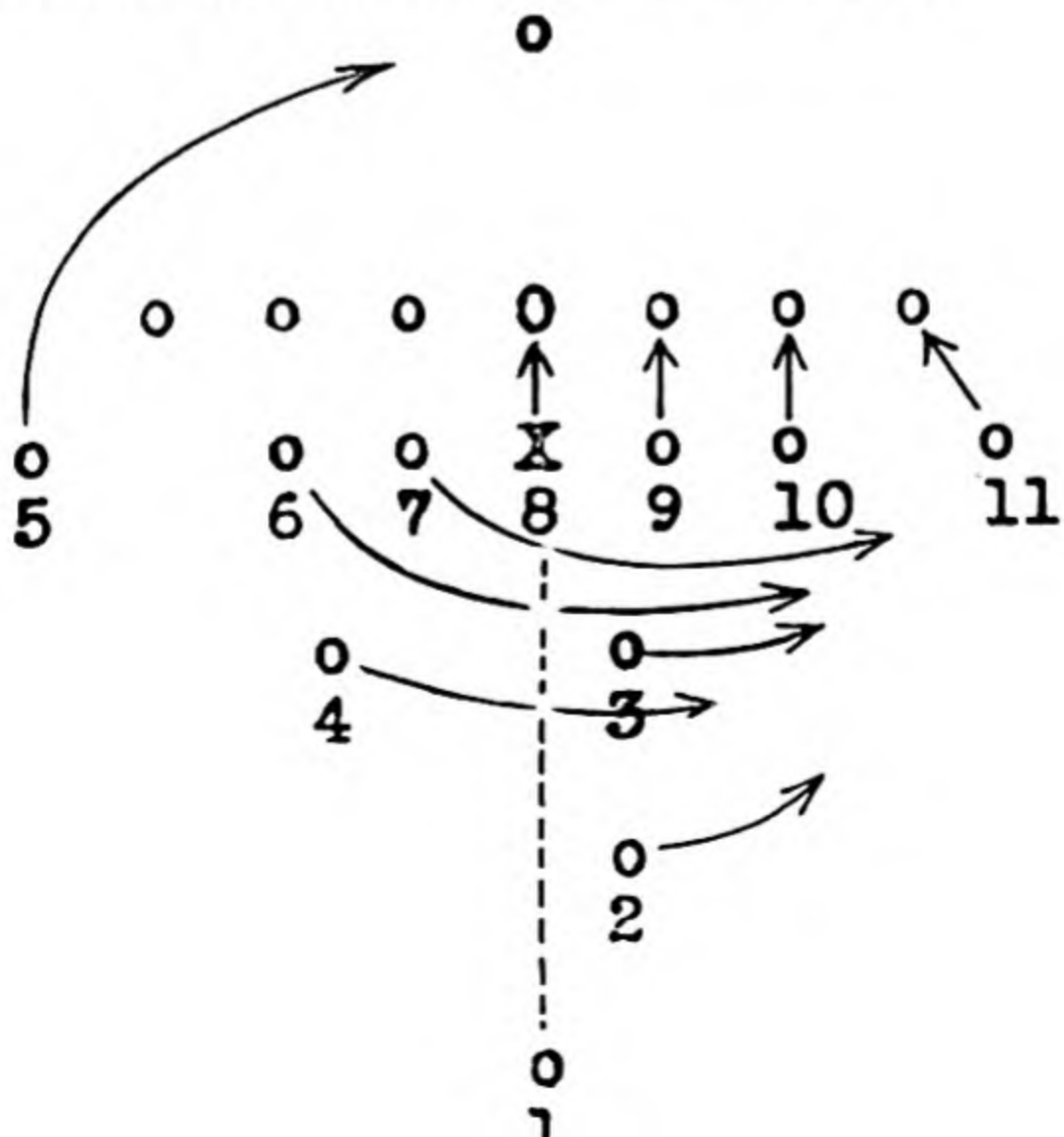
Shifts to left are the counterpart of the shifts to the right.

4. Kick Formation.—Punt:



The best kicker drops back to the position occupied by 1 in the diagram for the kick. When the ball is passed 5 and 11 run down the field under the kick and attempt to tackle the back who receives the kick; failing in this they turn the play in. 6 likewise starts with the pass back provided the kicker kicks with his right foot. 7, 8, 9 and 10 block as long as necessary and then hurry down under the kick. 4, 3 and 2 protect the kicker until the ball is actually kicked.

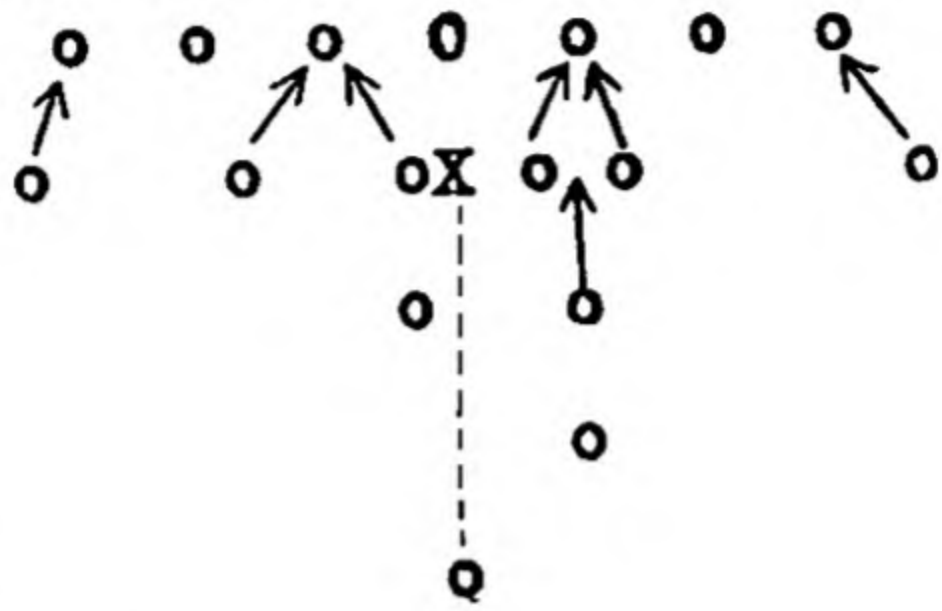
Run from Kick Formation. Run to Right:



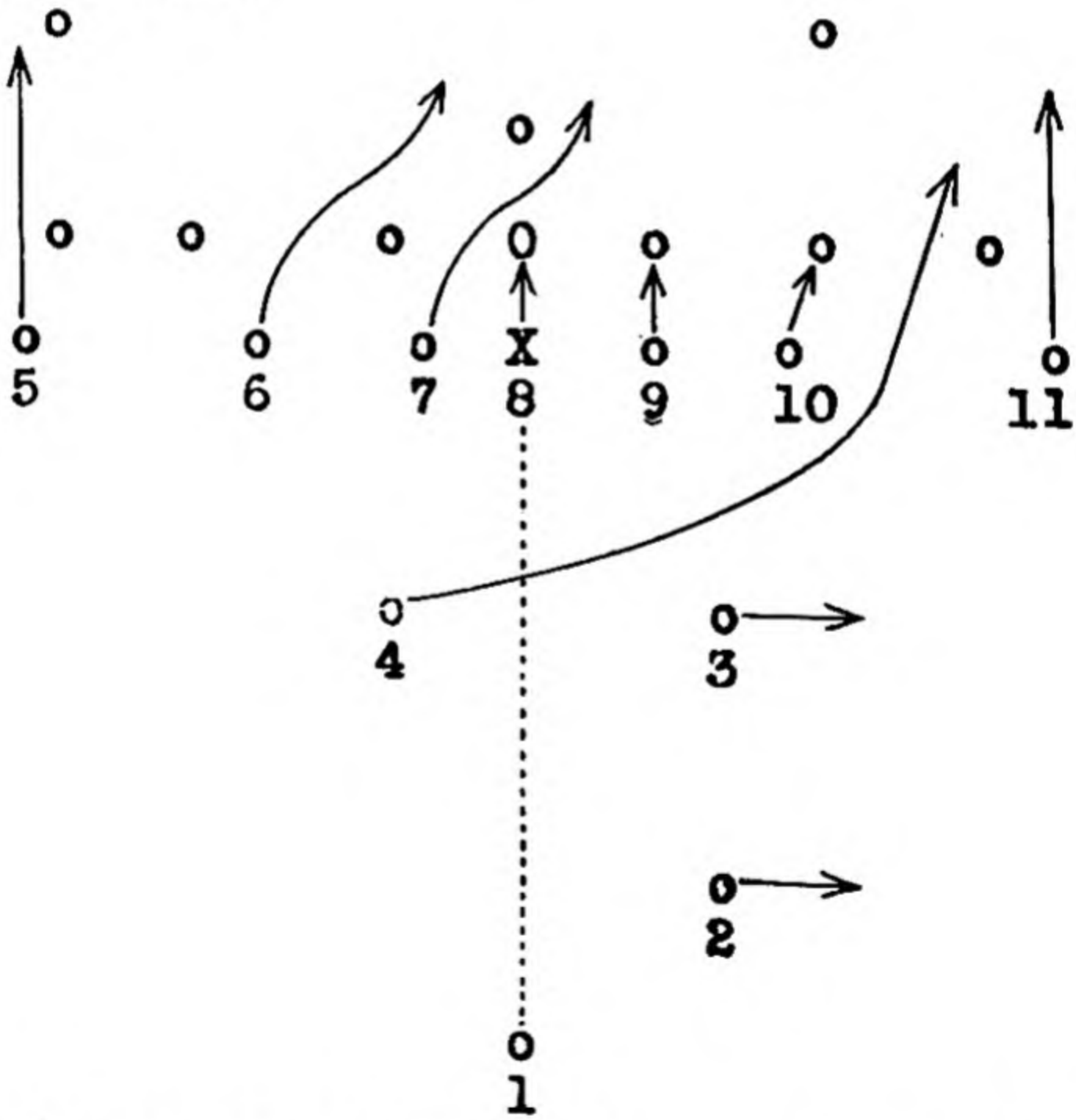
1 takes ball on run from center. 2, 3, 4, 6 and 7 form interference to right. 8 blocks center, 9 guard and 10 tackle, 11 blocks end in and 5 runs across to block defensive back.

Run to Left: Counterpart of run to right.

Quarter Back Buck:



Forward Pass:



5 and 11 go straight down field for pass, 6 and 7 cut across to form interference, 8 blocks center, 9 guard and 10 tackle, 2

and 3 protect passer and 4 runs across behind line for short pass over opposing line men's heads. 1 runs to right and makes short pass to 4 or long pass to 5 or 11.

FUNDAMENTALS OF DEFENSE

Defense for Normal Formation: Center plays in line with option of using his judgment as to when to tackle around the ends. As ball is snapped back he charges opposing center and protects against attack through either side of the offensive center. The guards charge with hands against opponents' heads, attempting to drive them back. The tackles charge ends and then go through to break up interference, while the ends play safe by charging straight in to turn the play in, at the same time watching for opportunity to tackle runner or to break interference if necessary. The fullback backs up the line and plugs the hole if a line buck is attempted. The fullback must be careful not to start until he is sure where the ball is going, otherwise he will be fooled on split bucks. If the play goes around either end the fullback should be there to make the tackle if possible. The halfbacks play safe to make sure that forward passes are not made in their territory. Consequently, they must not be too anxious to back up the line. At the same time they must back up the line and reinforce the ends, and the fullback in case end runs are attempted. The quarterback plays back about twenty-five yards, and watches out for long forward passes and kicks, and stands ready to make the tackle in case the others in front miss the runner.

Defense for Shifts: When the shift is made which places four men on one side of the center the whole defensive line shifts one-half a man the same way. This shift must be made quickly or the attack will be made while the line men are in motion to the side. The dangerous play from the shift is off tackle, so the line men should expect that three-fourths of the plays from the shift will be aimed at tackle. The advantage gained by a shift is one of two kinds, and perhaps both; one advantage comes from getting the jump on the defense and the other from shifting men so as to use the men to the best

advantage in the attack. When the strength of the attack is shifted to one side the fullback on defense should likewise shift over to meet the attack. When offensive takes first position on a shift the defensive line should drop back a yard and shift up and over with the offense.

Defense for Kick Formation: When opponents take a kick formation the quarter should drop back a safe distance to insure that the ball will not be kicked over his head. The fullback likewise drops back and takes a position about ten yards in front of the quarter to help with kicks and likewise to guard against forward passes and end runs. In case the opposing kicker is placing his kicks well to the side it may be necessary for the fullback to line up even with the quarterback.

As the ball is snapped the two guards and center work together to get one man through to block the kick thus: right guard pulls opposing guard to right, left guard pulls opposing center to left, and center charges through. The tackles watch for bucks and runs, but at the same time watch for opportunity to block the kicks. The ends guard against end runs by coming in straight and making sure that the runs do not go outside of them. They likewise should watch for forward passes.

Touching Scrimmaging: Since it is not advisable to have tackling and actual blocking on the drill-ground for soldiers dressed in the service uniform, all plays should be executed in what is known as touching scrimmage. In this the offensive players block off with a high block the defensive players, and the defensive players tag the man with the ball. This makes possible the running off of plays without injury or torn clothes, and still permits the practice of the strategy of the game.

B—SWIMMING AS A MILITARY ACCOMPLISHMENT *

The inability to swim has been responsible for the loss of many thousands of soldiers. More than this, lack of experience and confidence in the water has seriously handicapped, or caused the complete failure of, attempted manœuvers. The

* Prepared by Mr. Fred W. Luehring.

recent war, with its U-boat perils, its battles over streams, canals and flooded areas has served to give a new emphasis to this important factor in military training. Literally tens of thousands of soldiers have lost their lives in the recent war alone because of their inability to handle themselves successfully in the water, due to their ignorance of the simplest methods of swimming.

Most soldiers do not realize that it is really easier to swim a short distance in full equipment than it is without equipment. For this reason the recruit should be given a systematic training in swimming with and without equipment in order to give him the confidence which comes from actual experience in the water, and to enable him to ford streams or to save himself from drowning in water-filled shell-holes.

Under service conditions the soldier is not likely to be called upon to swim long distances; nor is it ever necessary for him, under ordinary conditions, to take the water by diving. If he is a member of a landing party, or if he is fording a stream, and is reasonably skillful in handling himself in the water, he can get ashore without wetting his rifle.

It is therefore strongly recommended that just as soon as a soldier has acquired an elementary knowledge of swimming, he should be given practice in swimming with a gradually increasing amount of equipment until he is able to negotiate a reasonable distance in the water without becoming exhausted or without having spoiled the efficiency of his equipment.

Although it would be desirable for every soldier to be an expert swimmer, individual difficulties and our habits of life make this impossible. A most valuable beginning may be made, however, by selecting such swimming activities for the army as have most military value. Such activities should include (1) a good working knowledge of some of the most valuable fundamental strokes, (2) ability to swim with arms or legs only, or when fully dressed and carrying full equipment, (3) a fair knowledge of the fundamentals of self-defense in the water, including the methods of rescuing those who are in peril of drowning, and (4) at least an elementary experience in com-

petitive swimming activities for their recreational value. Speed-swimming and diving, although valuable physical accomplishments, are exceedingly difficult of attainment, and hence cannot be accessible for the average soldier.

Of the seven generally accepted fundamental strokes, only three have real military value. These are the side stroke, the breast stroke, and the back stroke. These are also the strokes which have the greatest general utility.

The side stroke is undoubtedly the most valuable of all swimming strokes, either for the soldier or for the civilian. It is a stroke having all-around value. It is the stroke best suited to swimming with full equipment, since the body is carried in practically a floating position, which makes it also very useful in long-distance swimming. This stroke also leaves the body but little exposed if under fire, the upper arm being free to carry the piece, while the head is protected by the steel helmet. It is valuable for life saving, in the side-carry of unconscious or struggling subjects. It is the fastest of the strokes having military value, and forms the foundation for the speed-swimming strokes. The side stroke has practically no disadvantages, the only one worth mentioning is the fact that the head must be turned slightly in order to get one's direction in going forward. It is usually easy, however, to get direction from the side or the rear.

The breast stroke is the oldest of the fundamental strokes. It is useful in reconnaissance or when one is unexpectedly upset in deep water, since its position is the one most naturally assumed when it is necessary to get one's bearing. It is also useful in the "tired swimmer" or "cramp carry" in life saving, its frog kick being very powerful. The chief disadvantages of the breast stroke are, first, that it is not suited to swimming with full equipment, since the equipment disturbs the swimmer's balance and sinks the body too far below the surface; second, it is tiresome because the head must be carried too high; and third, that too much of the body is exposed to rifle fire.

In the back stroke the body is maintained in the easiest

floating position. This is the best stroke for tired swimmers. Its frog kick is the most powerful kick for towing in life saving. It is also good for swimming with full equipment, since the pack in its normal position on the back adds buoyancy to the body. It is also possible for the soldier in this position to use the legs only in case of cramps in the arms or when both arms must be utilized in carrying equipment. The pack and the steel helmet afford some protection against machine-gun fire. The back stroke position is the most useful one when it is found necessary to divest oneself of shoes, clothing, or other equipment preparatory to a long swim. The only disadvantage is that it is difficult to get direction, since this must be secured from the rear and from the side.

The only other stroke, if it may be called such, that has military value is an elementary type of crawl, sometimes called the confidence method of teaching beginners. The chief value of the elementary crawl consists in (1) acquainting the soldier with the natural buoyancy of his body, (2) enabling him to master the fundamentals of correct breathing, and (3) giving him confidence and familiarity with the water. The elementary crawl is simple in application, and lends itself easily to mass methods of instruction. By means of it large numbers have been taught to swim in an elementary way with only a very few lessons. Having served this purpose, it must be discarded for the other more fundamental strokes, since it is useless in swimming with full equipment or for life saving.

METHODS OF TEACHING THESE FUNDAMENTAL STROKES

Each of the strokes above outlined lends itself readily to mass methods of instruction, which are necessary when large numbers are to be taught in a short space of time. Each stroke can be taught first by drill on land followed by drill in the water. By means of land drills large bodies of men may be taught by a single instructor, the class formations being such as are employed in other forms of physical drill. Each movement is executed by a word of command, with proper timing and coördinations.

Land drills are found to be of immense value because it is manifestly easier for the pupil to grasp the correct idea when his feet are on dry land and his head securely out of the water. Once the land drill is mastered, the instruction is transferred to the water. For this purpose it is well to have a considerable space of water not more than three and one-half or four feet deep. The unit of instruction might well be the squad. Each instructor can handle two squads at a time comfortably, one squad trying the movements while the other squad follows along as assistants.

It is well in teaching the land drill to simplify the instruction by analysis, as follows: (1) execute the recovery and stroke with one arm alone giving careful attention to correct form, (2) ditto for the other arm, (3) the same using both arms, (4) the same using right leg, (5) left leg, and (6) combination of arms and one leg simultaneously.

LAND DRILL FOR SIDE STROKE

Starting Position: The position of attention with the exception that right (left) arm is elevated directly upwards, palm turned outward.

On the Command of 1. Recovery of under arm. The upper arm is extended sidewards and downwards, being slightly bent at the elbow until it reaches the side at the thigh, while the lower arm is raised by first elevating the forearm and then extending the arm forward and upward to a point of comfortable reach just above the face.

2. Stroke of Under Arm: In this movement the arms are again returned to the starting position, the arm which was originally extended being returned to the starting position endwise with as little resistance as possible, while the other arm is brought downward and back to the thigh with emphasis and the utmost resistance. In the land drill the legs are exercised alternately, the body being maintained on one foot while the other participates in the stroke. For example, on count of (1) (if swimming on the right side) the upper leg assumes kneeling position with the knee extended forward, and on

count (2) the leg is first fully extended with toes pointed and then vigorously kicked back to the starting position. The right or under leg in turn is employed as follows: On count (1) on recovery the leg is brought to a backward kneeling position. On count (2) or stroke the leg is simultaneously extended back, the toes pointed, and the entire leg vigorously kicked forward to the starting position.

It is best to teach the land drill by using (1) right arm only, (2) left arm only, (3) both arms simultaneously and (4) both arms and one leg simultaneously, repeating recovery and stroke several times while using the upper leg, and then repeating the completed movement with the under leg.

A land drill in breathing may also be employed by giving the command (1) inhale (on recovery) and (2) exhale (on stroke). The breathing is then combined first with the completed arm stroke, and finally with the completed arm stroke, including one leg.

LAND DRILL FOR BREAST STROKE

Starting Position: Position of attention with both arms raised and extended forward and upward at an angle of about 45 degrees from the vertical, fingers extended together and palms pointing downward.

On the Command 1: Bring the arms vigorously to the side and fully extended on a line with the shoulders, and on count of (2) bend the arms slowly at the elbow, bringing the hands to a position just below the chin with fingers touching, palms downward, (3) shoot the arms vigorously forward to the original starting position.

The leg movements come in on counts (2) and (3). In the land drill only one leg can be used at a time. The instructor indicates which one is to be used. For example: Land drill for breast stroke, using right leg. On command (2) the right leg is bent at the knee and elevated to the side, foot depressed. On count (3) the leg is simultaneously extended outward with toes and knee straightened and vigorously kicked back to the original starting position. The leg movement should be exe-

cuted with the knee and toes turned to the side. The resistance to the water is secured by the sole of the foot and the back part of the leg.

LAND DRILL FOR BACK STROKE

Starting Position: Position of attention.

Count 1: Bend the arms at the elbow and bring the forearms upward over the chest in an overlapping position to the height of the shoulders, hands moving sidewise with least possible resistance. (2) Arms are extended fully to the side on a line with the shoulders, palms turned toward feet. (3) The arms are returned vigorously sideward and downward to the original starting position. The legs execute the frog kick, the recovery being made on (2) and the stroke on (3) as in the breast stroke. Only one leg stroke can be practiced at a time when executing this land drill in standing position. The drill can also be given by having the class lying on their backs thus permitting the execution of the completed movement.

THE CONFIDENCE METHOD

No land drill is necessary for the elementary crawl or confidence method, the squad being at once taken into water waist deep, the men facing the shore. The work is divided into 6 successive steps: (1) Submerge—the object being to familiarize the individual with the natural buoyancy of his body, (2) plunge forward, face downward, keeping eyes open under water, illustrating ability to float and to make progress in the water, (3) plunge forward, face downward, and kick, keeping eyes open, and (4) plunge forward on face and stroke alternately with the arms, (5) plunge forward, kick with legs and stroke with arms simultaneously, (6) execute with correct breathing.

All movements are executed by verbal commands or by whistle. Movement No. 1: On command (1) take a deep breath and submerge by bending the knees and the trunk, holding the breath while lying in the water face downward. (2). Rise and exhale. Repeat the exercise exhaling under water. This exercise teaches the individual that he will not sink while his lungs are filled with air. Movement No. 2: On

command (1) take a deep breath and plunge forward, face downward, holding the breath and with arms and feet fully extended. Open the eyes under water, in order to see the progress being made and to gain familiarity with the water. On command (2) rise and exhale. Repeat the exercise exhaling under the water before the command "rise" is given. Movement No. 3: Same as No. 1, with the addition of the kick of the legs, which should be executed from the hips with legs straight and fully extended, the movement being a succession of small scissors. Execute first by holding the breath, and second, by exhaling under water. On command (1) plunge forward and kick. (2) Rise. Movement No. 4: Plunge and stroke, same as No. 2, with the addition of alternately stroking the arms. The arm movements are executed as follows: Starting with both arms fully extended, draw the left arm (right) slowly downward and backward, slightly bent at the elbow until it reaches a position fully extended at the side. The recovery is executed above the surface of the water by bending the arm at the elbow and elevating the arm until the hand clears the surface of the water, after which it is advanced sideward and forward to the original starting position. Repeat alternately with both arms, first while holding the breath, second while exhaling under water. Command (1) plunge and stroke with the arms. Command (2). Rise. Movement No. 5: Plunge and kick and stroke with arms; first while holding the breath, second while exhaling. Command (1) Plunge, kick and stroke with arms. (2) Rise. Movement No. 6: Complete movement with correct breathing. Inhale once with each double arm stroke. By introducing a slight roll of the body from side to side slightly move to one side then to the other, and turning the head to the highest side, the mouth will be above water at regular intervals. Inhale through the mouth on the recovery of the upper arm. Exhale through the nose under water on the stroke of the upper arm.

As indicated above, the chief value of the elementary crawl is to develop confidence and familiarity with the water, and to gain at least an elementary swimming ability. This stroke is of no further military value since it is useless for life saving or

for swimming with full equipment, and at the best is valuable only in an emergency or as a stepping stone in the process of gaining a better education in swimming.

LIFE SAVING

After learning how to swim, each soldier should be given some fundamental training in life saving, first for self protection, and second, to enable him to rescue others. This instruction should take the form of (1) treading water, ability to swim with legs or arms only, methods of breaking typical drowning holds; (2) methods of towing helpers or struggling persons in deep water; (3) resuscitation and after-treatment of the apparently drowned.

Breaks: Numerous breaks of so-called death grips have been invented. It would take too much time to familiarize each soldier with all of them. It is relatively easy, however, to teach a few breaks which are typical and generally useful. These should include (1) the wrist holds, executed upwards and downwards, (2) the front strangle, and (3) the back strangle. Each of these breaks can be practiced in drill first on land; second, while standing in the water; and third, while swimming or floating in deep water. Although it is possible and desirable to teach the typical breaks for drowning holds on land and in shallow water, it is unwise to try to execute them in deep water until the subjects are able to tread water and to swim at least fairly well.

Land Drill for Breaks: Class Formation. (1) Each instructor should have his men drawn up in two ranks. Have the front rank "about-face," so that number one of the front rank and number one of the rear rank would engage each other, etc. The break for each wrist hold should be practiced several times downwards and several times upwards, first with the front rank acting as subject and the rear rank as rescuers, and then *vice versa*.

Wrist Hold Downward: Commands. Front rank rescuer, rear rank subject. Count (1). Front rank assumes position with forearms vertical with arms extended slightly forward.

(2) Rear rank grasp wrists of front rank. (3) Front rank break hold by jerking arms downward, inward (against opponent's thumbs) and backward with utmost snap and vigor. Repeat with rear rank as rescuer.

Wrist Hold Upward: Front rank rescuers. Command (1) Front rank hold arms extended downwards and slightly forward towards rear rank at angle of about 45 degrees from vertical. (2) Rear rank grasps wrists of front rank. (3) Front rank jerk hands inward (against thumbs) upwards, and backwards, with utmost vigor and energy. Repeat several times and then reverse, rear rank acting as subjects, and front rank as rescuers.

Front Strangle: Front rank acting as rescuers, and rear rank as subjects. Command (1) Rear rank grasps front rank tightly around neck with both arms pinning opponents tightly to their chests. (2) Front rank place left hand on the small of opponent's back and right hand around and outside the opponent's arms with heel of the hand against opponent's chin, fingers clasping his nose and shutting off his breath. (3) Pull with the left hand and push with the right hand with sufficient emphasis and energy to break hold. Care must be used in practice, for opponent might be seriously injured by too vigorous methods.

Back Strangle: Front rank about face. Front rank acting as rescuers, and rear rank as subjects. Command (1) Rear rank clasp opponents around the neck with both arms. (2) Front rank grasp small finger or thumb of opponent's upper hand with corresponding hand, namely left hand grasps left and right hand, right. (3) Peel off upper arm vigorously. (4) Swing hips sharply outward turning body towards opponent's free hand and placing both hands against opponent's chest. (5) Push opponent away vigorously, at the same time ducking your head downward and outward so that your head will slip out under the arm pit of opponent's arm.

CARRIES

The carries which are most valuable for a soldier are the tired swimmer or cramp carry, and the struggling or uncon-

scious subject carry. The tired swimmer or cramp carry is executed as follows: The rescuer swims with breast stroke. The tired swimmer takes the position of floating on the back and places the hands with arms fully extended on the opponent's shoulders, one on each side of his head, the subject's legs trailing on each side of the rescuer's waist. Subject should keep arms fully extended, chest high and body straight at hips.

Struggling or unconscious subjects carry is executed as follows: The rescuer swims with side stroke, using the upper arm to carry the subject. The subject is carried on his back, the rescuer's upper elbow being crooked around the subject's chin (not the throat, as this would strangle the subject). The subject should be carried directly on the rescuer's side. The rescuer must keep constant look out to see that the subject's nose and mouth are constantly kept above the surface of the water.

Where conditions are favorable very valuable practice and experience can be gained in swimming activities through the use of competitions where platoons or companies in full service equipment swim ashore from floats, or ford streams and deploy at a certain point in skirmish formation ready for action. Competitions of this sort are so valuable in the training of the soldier that commanding officers will recognize the desirability of encouraging various contests of this sort among the units of their command.

C—THE STRATEGY AND TACTICS OF BASEBALL*

It is to be distinctly kept in mind that the baseball instructions which follow are written for amateur ball players, not for professionals. The game of baseball, as played by men of ordinary ability, differs considerably from that played by the best professionals, because the opposition in each case is different. It is much easier to steal bases in the amateur game, because the opposing pitcher is usually not adept at holding base runners close to the bases, and the catcher cannot throw so well. These instructions are written for the grade of ball players which will be found on army teams.

* Prepared by Mr. George Huff.

MASS BASEBALL

Large numbers of men can be given the advantage of baseball practice in a comparatively small space in the following ways:

Infield Practice: A man should bat grounders, while another man, to be called the first baseman, should stand within ten feet of the batter. This man should have a base so that he can practice the foot work that is used by a first baseman. The fielders should be lined up by squads of from five to ten men one hundred and ten feet away from the batter. The man on the left of the squad should advance ten feet and the batter should hit a ground ball. The man should try for the grounder, wherever it goes, and as soon as he gets it he should throw it back to the first baseman. The man then takes his place on the right of the line, and the man on the left takes his place.

Outfielding: This is done in the same manner as done for the infielders, except that the ball is batted on the fly, and that the squad be two or three hundred feet from the batter. It is imperative in this practice that each man takes his turn and tries for the ball wherever it goes. In outfielder practice, one man should be stationed halfway between the batter and the outfielders to relay the throws. It is too hard on the arm to throw the ball the entire distance each time.

Bunting: A squad of from five to ten men should stand in a line. One man with a bat stands twenty-five feet from the center of the squad. The ball is tossed to the batter, who hits it with moderate speed along the ground back to any one of the line, who returns it to the batter. This practice is valuable in teaching the batter to watch the ball, and in giving fielders practice in quick handling of the ball and in stooping.

Batting and Pitching Practice: If there is sufficient room on the field, a squad may be detailed to bat against those who are moderately proficient in pitching. If room is limited and there is danger of hitting other players, a play-ground ball may be used.

PICKING THE TEAM

In selecting candidates for a baseball team, there are three qualities of prime importance to be considered: nerve or courage, brains, and physical ability.

A team must have a pitcher, for a pitcher is half of the team, and in the estimation of many the pitcher is seventy-five per cent of the team. With a poor pitching staff, the pitchers should receive attention, even to the detriment of the remainder of the team, if necessary. Try out all possible candidates who show any signs whatever of being able to pitch; some of them will prove a surprise at times.

Second in importance to the pitcher is the catcher. He should have a good arm, a good head, and should be brim full of pepper. He should be the liveliest man on the team. All the remainder of the team is facing him; their attention is drawn to every move that he makes. He faces them all, and if he is full of ginger and life his actions will prove infectious to the remaining players, and soon the whole team will be on its toes playing at top speed. On the other hand, a slow catcher who moves about like an ice wagon and seems half dead, will soon have the other players dragged down to his level, and the go and dash of the team will be killed.

Shortstop and second base are important positions. These two positions average about eight chances per game apiece.

Third base is, perhaps, the most difficult of the infield positions. This position averages four chances per game.

Among other qualities, the height is a desirable one in a first baseman.

In baseball the men need encouragement more than in any other sport. They cannot be driven as is done in football. Therein lies the fact that many good football coaches make poor baseball coaches and *vice versa*. The men must be taken along easily in baseball. Keep a watchful eye on the veteran players on the team. They are usually the men who deliver the worst brand of ball. The old men who have played the previous years are often tempted to rest upon their laurels and do not play up to form. They regard their places as secure

and do not deliver the best that is in them. To offset that tendency give new men the preference. That will wake up the old men and get them to thinking and also to playing, for their lives depend upon it.

THROWING

As a general thing, ball players throw too much and too hard in practice. Half of the candidates who appear for a team have dead arms as the result of too hard or too long periods of throwing. The players should always take care to warm up well before they do any hard throwing.

The overhand throw is stronger and more accurate than the side arm or underhand throw. The overhand throw is made by holding the ball with the two first fingers and letting the ball go over the ends of the fingers. The hand starts behind the head and is brought straight over. As the right hand is brought back preparatory to making the throw, the left foot is brought forward.

The outfielders should always use the overhand throw, and the catcher uses it in throwing to the bases, except sometimes on bunted balls. The shortstop uses the underhand throw to second on short throws and after fielding slow hit grounders. The third baseman uses the underhand throw on bunts and slow hit grounders.

The second baseman is in a class by himself when it comes to throwing. He uses overhand, side arm and underhand as the case may require or as conditions make it necessary.

FIELDING GROUND BALLS

The first thing to do in learning to field ground balls properly is to get into correct position before the ball is hit, a position which will enable you to start quickly in any direction. Take a stooping position, with the weight resting on the balls of the feet. Literally, the ball player should always be on his toes. The feet should be from twelve to eighteen inches apart, the knees bent, the hands on the knees and the eyes on the batter. As soon as the ball is hit the first consideration should be to get

the body directly in front of the ball. Do not handle the ball off to one side, it should be in front of the middle line of your body.

When it reaches you, keep the feet together, or at any rate not over one foot apart, directly in front of the ball. Do not get into the habit of having one foot advanced in front of the other. Many players pick up ground balls with the right foot advanced in front of the left, believing that in this position they can throw more quickly. This is a fallacious notion, because at the time you are raising your arm to throw, the left foot may be advanced and, by the time the arm is in position the feet are properly set. It can be noticed that the players who play with one foot advanced are nearly always uncertain. This is caused by their trying to throw the ball before they get it. Put this down as a maxim: Do not have one foot in advance of the other.

In stooping to pick up a ground ball, the knees should be bent forward and spread apart. The bend should be distributed equally between the knees and the waist. The body should bend forward at the hips. Do not make the mistake of keeping the feet apart and bending one knee inward, knock-kneed fashion. The head should be bent forward slightly. The hands should be kept very close to the body. Do not reach forward for the ball. Let it come to you. The fingers should be extended straight down, the outside of the hands touching together the entire distance. This may be an awkward position for anyone who is not used to it, but a little practice will show that it is the easiest and surest way to hold the hands.

Watch the Ball: Now that you are properly set for the grounder, you are ready for the two great fundamentals, the two things of utmost importance.

The first and most important is to watch the ball. It should be watched intently from the time it leaves the bat until it is in the fielder's hands. Very few infielders realize the importance of watching it closely enough. Most of them watch the ball until it is within about fifteen feet of them and then lose sight of it. There is nothing in baseball which will pay dividends

so much as keeping constantly in mind, whether in the field or at bat, "Watch the ball." There are some infielders who do reasonably well on easy bounces and where the ball bounces true, but who fail miserably when the ball takes a false bound. Other infielders who get most of the bad bounces watch the ball until it is right in their hands. This fortunately is a very simple thing, but the player finds that it takes his utmost concentration to do it always. Watching the ball is probably the biggest essential in handling grounders.

The second fundamental is to keep the body very close to the ground. You will not make a mistake in keeping the body too low to the ground. Many infielders are not successful because they are scarcely ever low enough. Do not play as if you had a ramrod in your backbone. Bend your back, get down, keep very low.

Another important matter is to advance on all slowly hit balls. Do not wait for the ball, go forward to meet it unless it is sharply hit. This does not mean that you should handle the ball on the run, but that you should take a few steps forward, depending on the speed of the ball, then stop and take your correct position. You should be stationary when the ball reaches you unless the ball be coming very slowly, in which case handle it on the run, using the underhand throw. Always try to get the ball on an easy bound. The easy ball to handle is the one secured on a pick up, just as it leaves the ground, or when it is at its greatest height on a long bound. But above all, watch the ball.

PITCHING

The selection of a pitcher is a difficult task. A pitcher cannot be judged until he works in a game. Men who look good in practice will blow up competely in a game, while other men who look like dubs in practice will turn out to be good pitchers. Some men who have practically no curves and not much speed can outpitch men who have a dazzling array of "stuff."

The requisites for a good pitcher are: Nerve, Control, and Good Judgment.

Nerve: One failure in a game should not condemn a

pitcher even though he explodes completely. He will often acquire confidence as he goes along. Rather encourage such men instead of censuring them. Timid men must have encouragement. Such a man can often stand adverse criticism from a crowd when he knows his own coach and his team-mates are with him. All baseball men need encouragement even more than men in any other sport. The "swellhead" should be tramped on repeatedly and hard, for nothing else will cure him so effectively and quickly as a good "walking on."

Control: No pitcher can hope to pitch effectively without it. If there is not much choice between pitchers choose the man who has fair control and try in various ways to improve it. One of the best ways to secure control is to try for it while warming up. The pitcher should aim at a certain mark each time he throws the ball and not deliver it aimlessly. It is best for the catcher to hold his mitt in various positions and let the pitcher throw to it. Have someone stand behind the pitcher and direct him to throw at certain places and heights. Earnest, persistent practice is the only way in which any pitcher can secure control.

One other factor in securing control consists in the pitcher gripping the ball in the same manner with respect to the seams every time he throws the same kind of ball, be it curve or not. If he throws a fast ball, the fingers should be over the seam in the same manner each time. If he throws a curve ball the fingers should be along the seam in the same manner each time he throws that particular curve.

Overhand pitching is easier to control than side-arm or underhand pitching. Pitchers using the latter methods are usually wilder than one who uses overhand delivery. One style of delivery is enough for any pitcher. If a pitcher's style of delivery is not good and he can change it easily, it is better to change it, but if he does not change readily, then leave him alone. If he has a good assortment of curves and can control them with his style of delivery, leave him alone.

A change of pace is a valuable asset to any pitcher. Change of pace is most effective against a batter. Fast, slow and curve

balls constitute a change of pace, but to deliver these at varying speeds is better. That is, have an extremely fast ball which is thrown with all the speed possible and have another fast ball that is not thrown quite so hard. And so on with the slow and curve balls.

A fast ball is good when straight, but a fast one with a jump or shoot upon it is much better. A jump on the fast one is difficult to obtain, and is not possible for many pitchers. If this jump or shoot does not come in holding the ball in the usual manner, then experiment by changing slightly the position of the thumb and fingers.

The straight ball is thrown by gripping the ball with the first two fingers over a seam and the thumb on a smooth place and delivering it straight overhand, letting the ball leave the hand over the ends of the two fingers. The fingers over the seam will give the rotary motion. If the jump or shoot does not come on the ball when held in this manner, then try moving the thumb toward the little finger. Also try letting the ball go out between the second and third fingers when the delivery is made.

Some pitchers throw an out curve by "thumbing the ball." That is, the thumb is pulled down almost even with the palm of the hand, and when the delivery is made the ball rolls out over the thumb. A better method, and one which makes it hard to distinguish the kind of ball that is coming, is to grip the ball in the same way that the fast ball is thrown and let the ball leave the hand by rolling over the first finger at the side. A wide side-arm movement will give the old-time round-house curve. If the delivery is made with the arm a little higher up, it will give an out-drop. If the arm is brought straight over it will give the straight drop, which is better than the out-drop. In the delivery it is necessary to get the snap of the forearm and wrist at the finish. Grip the ball moderately hard. Another method of throwing a curve ball is with palm up and letting the ball go over the ends of the fingers.

One method of throwing the slow ball is to grip the ball with the little finger and thumb, keeping the other fingers curved

close to the ball, but not gripping it. The trouble with this method is that it is very difficult to conceal the three fingers which are not gripping the ball. If they stick up they will betray to the batter what is coming. A better method is to grip the ball about the same way that it is gripped in throwing the fast ball, but the grip is only a half grip, for nearly half of the ball should be outside the first finger and thumb. In delivering, the ball leaves the hand when the thumb and first finger are parallel and the palm vertical to the plane of the ground. The hand precedes the ball in the throw.

The spit ball is thrown by holding the thumb on a seam underneath and the two first fingers on a wet spot on a smooth part of the ball. The ball gets the rotary motion from the thumb.

The pitcher should be a good fielder. He will field on an average about as many balls as the other infielders. He should practice fielding just as much as they do. Put him on the field and hit the ball to him in his turn when the other men are fielding. Also let him practice covering first base. Have him toss the ball to a batter who stands about twenty feet away and have batter bunt balls back to the pitcher who fields them. This will give him lots of practice on ground balls, and will make him quick and active in getting hold of the ball.

The pitcher should be able to hold base runners close to the bags, especially first and second where there is danger of a man stealing. Often the catcher gets the blame for letting a man steal when the pitcher permitted the runner to get such a lead that no catcher could throw him out. To hold men up closely on the bases he must be able to get the ball away quickly and cleanly. A common fault with pitchers is that they raise the front foot too soon, when about to pitch, and thus allow the runner to get a good start. A pitcher should be careful not to lean too far forward and then have to bring his body back before he can pitch. This, if done, will aid a base runner in stealing. The pitcher himself should watch the first runner. If the pitcher is a quick acting man he can jump into throwing

position, at the same time drawing back his throwing arm and shooting the ball quickly to first.

The pitcher watches the shortstop who signals when he wishes to try to catch the runner. The throw is a hard one to take. The pitcher and shortstop must practice much in order to get the throw properly timed. Constant rehearsal is necessary. The pitcher turns toward the shortstop so that he can have his eyes upon him all the time and makes an underhand throw a foot or two to the left of the bag. The throw must not be too hard. This is all important.

The pitcher must always back up the bases. He will often save his own game by backing up plays. Keep after him on this point and also the other men. As soon as the ball is hit, he should get into action. As a rule the man backing up gets too close. He should be back thirty feet or more to be effective; otherwise an overthrow or a deflected ball will get away from him. When the ball is hit to the right side of the diamond, he should always start toward first base so as to be in position to cover it if necessary or to back up or recover dropped balls.

The pitcher must be the best conditioned man on the team. If he is not in good condition, a two-bagger or more will often ruin him. After a hard run on the bases, he will go to the mound trembling and puffing from his exertion and take a good drubbing as a result. Give him an hour's practice in fielding bunts and give him some distance runs.

The amount of actual pitching which a man should do varies with the man. Some men can stand much more than others. A weak man cannot do much. The average pitcher will pitch too much in warming up for a game. Fifteen minutes warming up is enough for any pitcher. He should start in easy and come up to three-quarter speed gradually, till just before he is ready to take the mound he can deliver ten to twelve balls at top speed.

For the reason that he should learn the direction and velocity of the wind, a pitcher warming up for a game should pitch in the same direction that he will pitch during the game. This will aid his control.

CATCHING

The catcher should stand with his feet well under his body, fairly close together, knees bent, and standing up on the balls of his feet. He must not sag down on his heels, else he is in a poor position to start quickly. His crouch should be low, for it will be easier to come up to catch a high ball, than to get down to a low one. The catcher should be relaxed at all times, with his fingers either straight up or straight down, so as not to get them broken. In catching with the fingers up or down, the ball will bend them, but will not break them. Get behind the ball every time, for nine-tenths of the passed balls are caused by the catcher reaching for them, instead of moving for them. Getting behind the ball in a crouching position with the feet moderately close together, puts the catcher in a much better position to throw. In throwing, simply take a step forward with the left foot and throw. Avoid making two steps. Try to bring your body around in a position to throw at the same time that you are catching the ball. It is a little awkward at first, but with a little practice, it is easy enough to do.

The catcher should crowd the batter; in other words, keep right up under him, just close enough to keep out of the way of the bat. The only exception to this is when there is a man on second and there is a possibility of a steal and a consequent throw to third; then the catcher should move back a little, so that he will not have to throw over the batter's head. Otherwise keep up as close to the batter as possible, the closer the better. In going after foul balls, acquire the habit of throwing off the mask as quickly as possible and start running, even if you do not know where the ball is going, for in this way you will get many foul balls that you would not otherwise catch. Judging a foul ball is difficult, because the cut imparted by the bat makes the ball curve as it comes down. It should be remembered, however, that this curve always takes the same direction, unless interfered with by the wind. The foul ball always curves in the general direction of the pitcher.

Try at all times to conceal the signals from the other side.

The best way is to get down in a crouching position, cover the signals with the glove, and keep them back in between the legs.

In receiving a throw at the plate, stand sideways half way across the line, for by standing ahead of the plate there is too much danger of the runner sliding back of you.

Perhaps the greatest asset of the catcher is that of working the pitcher. Some pitchers have good judgment, but as a rule, the catcher works the pitcher. When the pitcher fields a bunt, tell him where to throw it. And, above all, do not let your pitcher work too rapidly. No matter how much he is told about taking a lot of time, he will invariably work too rapidly, so it is the catcher's duty to keep him in check and hold him steady. Especially when the team is going badly and the pitcher is going badly is the time for the catcher to make the pitcher take his time. Another thing, when the pitcher is wild, say, for instance, that his curve ball is constantly breaking outside for a ball, go up to him and say, "Your curve ball is breaking outside, start it over a little closer to the batter." Of all the many different things that the catcher can do to help the pitcher, the following two are the most important; talk to the pitcher between innings about the different batters and watch for the apparent weaknesses of the hitters. If you find some fellow is stepping badly away from the plate, remember that, and give the pitcher a signal for a curve ball. Whenever you find a batter that is particularly weak on a certain ball, give the signal for that ball every time.

PLAYING FIRST BASE

The footwork of the first baseman is of vital importance, and the mastery of it will usually make a first-class man out of a poor one who has not tried to master the essentials. When taking a throw the first baseman should always put both feet on or against the bag, one foot on each corner. On a wide throw hop over in order to take advantage of the width of the bag; that is, on a throw to the right side put the left foot on the right side of the base or *vice versa* on a throw to the left. On a throw straight to the base reach forward to meet the ball,

for by doing so the baseman will oftentimes get the decision on close plays which otherwise would go to the runner. In taking a throw from the catcher, step into the diamond with the right foot, left foot on base, and hold the mitt as a mark to which the catcher can throw.

Whenever possible, the first baseman, in fielding a batted ball, should touch the base himself. When the play is likely to be so close that there is danger of a collision, the baseman should slide head first to the bag, so that he will not lose the runner by slowing up to avoid the collision. The pitcher, of course, should cover the base on batted balls that are so far away that the first baseman cannot make the play himself. In this case, as soon as the baseman fields the ball, he should run toward the base and toss the ball a little ahead of the pitcher when the latter is two or three feet from the bag.

On short hard throws, especially from second and the pitcher, stand with both feet against the base and squat slightly for it is much easier to come up for a high throw than it is to go down for a low one.

On wide throws to the left it is sometimes best, when the runner is not too close, to step off the bag, take the throw and tag the runner. But above all, when the throw is so wide that it is impossible to field the ball and keep the feet on the bag at the same time, get the ball first and play it safe.

When jumping for a high throw, kick out the foot so that it will alight on the base, rather than waiting until after alighting to touch the bag for the time thus saved will often win a close decision.

On a throw from the pitcher stand with the right foot on the corner of the bag nearest home for this position minimizes the danger of being spiked by the runner. Never play back of first base, because there is too much likelihood that the throw will hit the man running to the bag and carom off in such a way that the base runner will get another base.

The first baseman is responsible for seeing that the base is in its proper position; but above all, do not play too far away from the bag, for a hit anywhere between the baseman and the base is always good for two or three bases.

INFIELDERS

Infielder's Throwing: Infielders have a customary hard throw which they use in practice from day to day. Oftentimes in a game a fielder will attempt to make his throw sure by throwing it easier than he has been accustomed to throw it; indeed, he will sometimes lob it. This practice is not founded upon good judgment.

In starting a double play, the throw should be made underhand and without waiting to straighten up. To straighten up means a loss of time and in a double play will prove fatal. On a ball close to second it is sometimes possible and advisable to toss or rather scoop the ball to the other man on the second bag. Whenever possible the shortstop or second baseman or any other infielder for that matter should touch the bag himself and then throw for the other put out. Otherwise, the liability of dropping the ball increases, and not only the second put out but also the first one may be lost. The second base man may turn either way in making his throw to second in fielding the ball. He should be guided in this by turning whichever way is the easier. To the shortstop there is but one choice—always to the left. The throw to the man covering second should be about the height of the chest, or in the position to make it easiest for the man to get the ball away quickest. The man should not waste a fraction of a second in getting the ball away, for time on this play is extremely important. Therefore he should be careful to cut out all waste movements. In taking the throw at second, the second baseman has his right foot on the inside corner of the base, and the shortstop has his left foot on the same place. Both step away from the base in completing the play, and thus avoid any possible interference from the base runner.

Short Flies: Men in whose territory the short fly is hit should always start after the ball. Let the man who is to catch the ball always call for it, and call loudly so as to attract the other fellow's attention. Indeed he should almost scream. Collisions occur in all baseball, even in the professional ranks.

Nevertheless, an effort must be made to reduce these collisions to a minimum. The first man to call for a ball should have the right of way. In case of an infielder and an outfielder calling at the same time—the outfielder has the right of way as he is facing the ball.

On slow-hit balls the fielders must pick up the ball on the run and throw in the same motion. They cannot wait to look for the baseman, but must instinctively know where to throw it. First and third should always be alert to handle bunts. The commonest fault is that these players do not play far enough in when a bunt is expected. They should play in close, and then as the pitcher delivers the ball they should come in on the run. On slow-hit ball coming to the shortstop the third baseman should cut across in front of shortstop and field the ball unless the shortstop calls for it. On slowly hit balls the first baseman has no general instructions, but must use his head and good judgment.

The infielders should be kept farther to the left than they like to play because a player can cover more ground to his left than he can to his right. He can field easier going to his base and he is in a better position to throw once he has fielded the ball. The first and the third basemen should play close to the base to head off hard-hit balls between either one and the bag, for such balls are always disastrous. A ball hit through those two positions is nearly always good for two bases or more—frequently three bases and home runs. If the ball is hit between third and shortstop or between first and second there is an outfielder in front of it. When a fast left-hand batter comes up the shortstop should move in half way between his usual position and the base line. On a very fast left hander the shortstop should move in on the line. Otherwise he will never be able to throw the batter out.

OUTFIELDERS

The outfielder should start quickly after a ball is hit and go as fast as he can until he gets under the ball or where he judges the ball will fall. Then, if he has misjudged it, he still

has time to rectify his mistake and get under it. If he runs so as barely to get under the ball and then finds that he misjudged it, he will have no chance to retrieve his error and many times the ball will fall just out of his reach.

There are two general methods of catching fly balls. In one, the hands are held about the height of the waist, the little finger sides of the hands together. In the other, the hands are held as high as the head or high above the head, thumbs together. Either method is all right, but both methods should be practiced and not one method exclusively, because there are some balls on which an outfielder cannot get set and use his pet form.

The outfielder should have considerable practice in fielding ground balls. He should also have faithful practice on balls hit over his head. In a game the outfielders should play well back, for a ball hit in front of them is usually a single, whereas one hit over an outfielder's head is always good for extra bases. He should throw overhand, if possible, and should always get the ball back into the diamond quickly. To field balls hit over the head, turn and run at top speed and then, after covering what seems to be the necessary distance to get under it, turn. Inexperienced players will find great difficulty in making the play, as thus described, and constant practice is necessary to insure reasonable success.

Outfielders should do most of their practicing on the thing most difficult to do, which is to judge and to catch flies they have to go back on.

Outfielders must pay attention to the direction and velocity of the wind. They must play in close or far out accordingly. However, they must not play in too close to enable them to learn the action of the wind, for a sharply hit ground ball or a line drive may get past them. Just before a game the fielders should practice in their regular positions and should have flies knocked to them from the direction of the plate.

Outfielders should usually play deeper for the first men on the batting order, because they are nearly always the hard hitters.

For left-hand batters leave the fielders in the usual positions except that the left fielder should come in closer and the right fielder should play deeper. Many left-hand batters hit to left field, but seldom do they hit hard to that field. Of course, if the fielders know that the batter is very likely to hit to a certain part of the field, they should all move in that direction.

Players should station themselves according to the speed of their own pitcher. If he uses much speed, most of the right-hand batters are likely to hit to the right side of the diamond and to right field; the left-hand batters, to left field; if they use little speed, the right-hand batters are likely to hit to left field and *vice versa* with left-hand batters.

When the right fielder tries to throw a man out at first, he should make the attempt only when the ball is hit to him sharply and in making the attempt, he must throw caution to the winds and come in fast on the ball and whip it to the baseman.

On a ground ball, hit to the outfield or on a muffed fly which is quickly recovered, the fielder should play the ball two bases ahead of the base runner. In all cases get the ball back into the diamond quickly.

Other qualifications being equal, play a left-handed thrower in right field.

DEFENSIVE PLAY

Fielding

General: As a general rule, make easy, sure plays when well in the lead, rather than take difficult chances.

Guard against useless throwing of the ball—that is, throwing the ball after the runner is clearly safe.

Fielders should always call for a fly ball, even if there is no question about who is to take it. This will tend to confirm their habit of calling for it.

Man on First and No One Out: The first and third basemen must play in close in order to be able to handle bunts. Of course, the first baseman must hold the runner to the bag until the pitcher starts to deliver the ball, then he must get in fast.

The shortstop moves closer to second and the second baseman moves closer to first, so that they will be in position to cover second and first in case the first baseman fields the bunt. If the first baseman sees that the pitcher can field the bunt, the former should hustle back to the bag and take the throw because he is accustomed to taking the throws there. He is usually taller than the second baseman and consequently not so liable to make an error. If the third baseman fields the bunt, the pitcher must cover third to prevent the runner going on from second when the third bag is left uncovered. If the pitcher fields the bunt, then the third baseman must hustle back to his base. If the first baseman is a slow, awkward man who is used principally on account of his ability to hit the ball, then it is sometimes advisable to have the second baseman play in very close and field the bunts.

When the infielders are playing for a double play, the second baseman and shortstop must play in closer and nearer to second base, else they will never be able to pull off the play. If the ball is fumbled, then it should be shot to first because the chance for a double is gone, and it will take mighty fast work to get the runner going to first.

With two men out, always make the easiest play for the third out.

On bunts which the pitcher fields, the catcher should direct him where to throw the ball. If the catcher makes a mistake in judgment occasionally, do not censure him, because such action will make him hesitate and may destroy his confidence in his own judgment.

Men on First and Second and No Outs: In this case use the same defense as with man on first except for the third baseman. With a good fielding pitcher, let the pitcher field the bunt and third cover his base. In any case, the pitcher must hold the runner close to second. If possible, he should bluff the runner back to second and pitch while the runner is headed towards second.

If the ball is hit to first or second, it is better to play to second and then to first. If it is hit to shortstop or third, it

should be fielded where easiest. For instance, the shortstop may field a ball while going hard towards third, in which case he can field it easiest to third. Or, the third baseman may field a ball while going toward second, in which case he can easily play it to second. In case the shortstop or second baseman fumbles the ball on a ground-hit ball, when there is a man on second, play the ball to third quickly, and often the runner can be caught napping there.

With a man on second when a slow ground ball is hit to the outfield or when an outfielder fumbles a ground ball, he should never throw home, because the throw is useless, and will only result in giving the batter an extra base. The outfielders should throw home on a line when they do throw so as to prevent overthrows, and also to enable infielders to intercept the throw and make a play at some other point. If his team is leading in the score by a comfortable margin, the pitcher should place himself in line with the throw. If he sees that the throw will not get the runner at the plate, then he should intercept it and play for the other runner.

OFFENSIVE PLAY

Base Running

Base running may be grouped into two closely related large divisions, the stealing of bases, and the stretching of hits or advancing on short passed balls. When two or three runs behind, take no chances on the bases; only a batting rally will win in that case. If the team is hitting well, take no doubtful chances; if it is not hitting and the score is close, take all chances. The amount of base stealing and hit stretching depends on a number of conditions: the inning, the number of men out, the score, the call of balls and strikes and the strength or weakness of the opposition.

When the batter hits the ball, he should run to first base as hard as he can. There are days when a man cannot hit, days when he cannot field, but he can always run hard to first. Loafing will lose a team several runs in a season. Do not depend

too much on the coachers; runners lose time when they wait for the coachers to tell them. The runner often tries to escape censure by blaming his mistakes on the coacher. More is gained by making the runner watch the ball. The batter should dig for first, taking a little glance at the ball over his shoulder. He should never go around the bases with his head down.

The secret of successful base stealing lies in the lead and in the finish of the attempt. Slow men are often the best base runners because they have mastered the art of getting a lead and can finish properly. Base runners must slide when it is necessary, else they will never become successful base stealers.

Getting far off the base before the pitcher delivers the ball is not getting a lead. Getting down by the time that the ball leaves the pitcher's hand is really getting a lead. The base runner must watch the pitcher and study his movements so as to be able to determine when he is about to pitch. He must also study the pitcher's balk movement if he has one, and try to distinguish between it and the usual pitching movement. Oftentimes a runner by playing moderately close to the base and making no action to indicate that he intends to steal, may get the pitcher careless and off guard. With a moderate lead the runner starts down and tries to catch the pitcher in the act of pitching. If he does not catch the pitcher so, the runner can usually get back to first because the pitcher nearly always looks to the base before he throws. It is easier to get a lead off second than off first because the pitcher must turn around to throw to second and he cannot use a balk movement so effectively.

When to Steal: Stealing Second—With runner on first and nobody out, never steal unless the pitcher has a give-away motion or the catcher has a very weak arm; in either of these cases it would not be dangerous to steal. With one out, it is a fair time to steal. With two out, it is advisable to steal, especially if the man is a good base runner. It is an even chance that he will make it and can then score on a single. Always take the advantage of a poor throwing catcher or a

pitcher who does not hold runners close to bases. In general, it pays to take plenty of chances on the bases, because if the men get away with their attempts, it has a disturbing effect upon the opposing team and tends to send them in the air. Do not be too sure that the opposing catcher can throw well to the bases, even though he shows a great peg during warming-up practice. He may be no good in a game, so try him out at the first chance.

With a runner on first, two out, and a weak batter up, a steal should not be attempted because the runner endeavoring to steal takes his life in his hands every time he does it, and even though he should be successful in stealing the base, the chances are that after taking the risk of being thrown out, the weak batter will not be able to advance or at any rate to score him. If unsuccessful, it leaves the weak batter to open the next inning.

When a team is badly in need of a run, let the pitcher run the bases for all he is worth.

Stealing Third—With no one out do not attempt to steal third. Of course, if the pitcher forgets himself and winds up, an alert base runner should steal at any time. With no one out, the runner on second has all the chance in the world to score, and he should not endanger his life on the bases by attempting to steal, with the exception just noted.

The only proper time to steal third is when one is out, because then a sacrifice fly, a fumble or an error will score the runner. With two men out do not steal third, as it is not worth the risk. A base hit will nearly always score a man from second just as well as from third.

Stealing Home—A very risky play with the chances all against the base runner and should never be attempted, except when two men are out. With none out or with one out, never try to steal home. Only try it when two are out and a weak hitter is up or where the pitcher is careless and is taking a long wind-up. This steal is a desperate chance, and the only chance of getting away with it is to try it with a good base runner on third when he catches the pitcher not watching him

or using a wind-up. When the attempt is made, the batter should stand pat in his place and should not step out of the way and give the catcher a clear chance at the runner. In coming into the base, the runner must try to out-guess the catcher and come in on the side of the batter where it will be difficult for the catcher to tag him. It is easier to make this steal on a left-hand pitcher because he cannot watch the runner so easily. It is easier with a right-hand batter, because with a left-hand batter the catcher has an unobstructed chance to tag the runner.

Two Men on Bases, First and Second: If the man on second steals, the man on first should also steal, because only one of the men can be thrown out. It is better to do this without signal because the man on second must be governed in stealing by his ability to get the lead. When he goes, the man on first, who should be wide awake, should go also.

The least desirable time to steal is when there are men on first and second, and nobody out. In this case, study the other team. If the opposing catcher is a poor thrower, and the runner on second is a good fast man, try the double steal. With one out or with two out, is the most desirable time to pull the double steal. When no one is out, the runners, can rely upon a bunt to advance them. With one or two out, the steal, if successful, will place the runners where both can score on a hit. If one is out when the attempt is made and the runner is caught on third, the man at second is still in a position to score on a single. If neither is caught, then at least one of them has an opportunity to score upon an error, a sacrifice fly, wild pitch, passed ball or short single. The man stealing second should go down at full speed. If the man going to third cannot be caught, the catcher should try for the man at second. If the latter loafs on the way, as he frequently does, the catcher will have a good chance to pick him off.

An alert runner can also sometimes steal home by getting a good lead and coming in fast when the catcher rather carelessly returns the ball to the pitcher, as he will occasionally.

Two Men on Bases, First and Third: With nobody out,

and three or four runs behind, play safe because a cluster of runs is what is desired in that case and not one run. With no one out, score about even, do not steal unless it is almost a sure thing. With one man out unless badly behind in the score, the steal of second should be attempted, and with two out even the poorest base runners should attempt the steal.

With two out and a weak batter up, it is sometimes a good plan to send the runner down while the pitcher has the ball in his hands. If this is done, the runner should delay his start until the pitcher has taken his place ready to pitch. Meanwhile the runner on third is ready to break for home, and he does so as the pitcher turns to throw to second. He does not wait until the pitcher throws to second, but breaks as soon as the latter turns. Then the runner going to second must run up and down the line until the third base runner has time to score. Of course, if the pitcher turns and bluffs a throw to second, then the runner at third is caught in a bad hole, and must do his best to get out. A clever pitcher will sometimes do this. The man on third must also watch the short throw made by the catcher to the pitcher or to the shortstop or second baseman. If the throw is made all the way through to catch the man going from first to second, then the runner on third should come in and the runner going to second should turn and jockey up and down the base line until he has time to score. Even the short throw may be beaten by the runner on third provided the catcher makes the throw to second without looking toward third. This failure to look at third will enable the runner to get such a lead that it will be nearly impossible to catch him.

A good base runner can also steal when the catcher throws the ball back to the pitcher. It is easier to steal third in this way than it is to steal second. If the catcher does not keep his eyes open, if he carelessly returns the ball to the pitcher, often lobbing it back to the latter, then this steal can be successfully made. In addition to the value of the base stolen, this steal has an added value in the adverse effect which it nearly always has upon the other team. It makes the other players sore at each other, makes them feel that something has been pulled

over on them, and makes them more or less fear the runner who made the steal.

Delayed Steal: When the second baseman and shortstop are sleeping on their job, and playing a long way off the bag, try the delayed steal. The runner goes up the base line with the pitcher's delivery, and then stays there. As the catcher has his arm drawn back to throw, break for second. In many cases, the catcher will be compelled to make several false attempts to throw because he sees no one ready to take the throw. This aids the runner in his steal. The defense for this steal is to have the man who is to cover second base on the alert and close to the bag.

Steals may also be made by drawing throws by taking a big lead and then breaking for the next base as soon as the thrower draws his arm back. This can be done effectively on a catcher who has a good arm, and who likes to show it off by throwing the ball around.

When a base runner is trying for a base and expects a throw from behind, he should not slide, but should run straight at the hands of the baseman who has them in position to take the throw. This will often save the runner by making the catch difficult, by getting hit himself, or by deflecting the throw, in which case he often gets an additional base.

With a man on third and nobody out, do not send the runner in on a ground ball; with one out or two out, send him in. The man leading off third with the delivery of the pitcher should get back to the base quickly after the ball is in the catcher's hand, and should not stand on the line and invite a throw.

The base runner should watch the batter and take his biggest lead when the batter swings at the ball. Then, if the batter hits the ball, the runner is in good position to go on. If the runner does this, however, he offers good opportunity to the catcher to pick him off, and the catcher must be alert to the fact.

When a runner on third breaks for home on a ground ball, he should not look to see where the ball is hit, but should direct all his energy to getting home.

With men on second and third, they should run every time on a ground ball, because the play to catch the runner at home is much harder than the play at first base. In case the runner is caught at home, then the man on first steals on the next pitched ball, and the status of runners is then the same as before the attempt to score.

On a long or a moderately long fly, the runner on third should go back and touch the base. Runners on first and second should use judgment as to whether the ball will be caught or not. On a short fly, on which the runner on third cannot score if it is caught, the runner should take a lead so as to be in position to score if the ball is muffed.

If a runner is caught off first or second by a throw as he starts toward the next base, he should go ahead at full speed and try to make it. When a base runner is trapped between bases, he should go full speed until he turns, and then go hard in the other direction. This action will hurry the other players and increase the liability to error.

If a runner tries to score from third on a ball hit to infield and finds himself caught by a big margin, he should turn back and delay being put out as long as possible and give the batter time to get to second or possibly third.

To run down a man caught between bases, make him run at full speed and then throw the ball so that the runner will be caught before he can turn and get up speed again. The safest way is to run the man down without throwing the ball at all if possible.

A base runner should always catch the catcher's signal to the pitcher, whenever possible to do so. In case he can do so, then the time for him to steal is upon a curve or slow ball because both of them not only get to the catcher more slowly than a fast ball, but they get to him in a bad position to make a throw to a base.

COACHING

Coachers: Base runners depend too much upon the coacher. The coacher should have plenty of life, should make lots of noise and should say things to the point. He should never become

abusive or offensive. Place the men best fitted for coaching on the coachers' lines. Men with poor judgment will often lose ball games when the coaching is left to them. The coacher with the best judgment should be stationed at third base.

A coacher should always know how many men are out. The base runner should also always know but when he does not know, then the coacher must tell him and must keep telling him. A coacher must always know where the ball is, so that it will be impossible to work the "hidden ball" trick on a runner. The runner should know where the ball is at all times, but the coacher must be prepared to help him.

With two men on base, the coachers at first and third coach the man nearer to them. Both coachers coach the runner on second when he is the only runner on base. Sometimes with men on first and second, or with the bases full, the first baseman will play behind the runner. In that case the coacher is entirely responsible for watching the baseman; the runner watches the ball. It would be well in this case for the coacher to turn so that he cannot see the batter.

With a man on second the coachers watch the baseman and let the runner watch the ball. They should send the runner back to the base at every attempt an infielder makes to get behind him. In directing him to get back, they must call loudly enough to him to make an impression on him. When a runner is on second base and the ball is hit to the shortstop or to the right side of the diamond or to right or center fields, the runner depends entirely upon the coacher at third for his direction as to how to act. This is about the only case in which the runner depends upon the coacher's judgment on a hit ball. Whenever a base runner can see the play he should use his own judgment. It takes time for a coacher to communicate with a runner, and that loss of time is often fatal to a chance to make an extra base or to save himself from being thrown out. By using four signals the coacher can direct a man coming to third how to proceed, whether to slide or not, hold the base, overrun the base, or attempt to score.

Teach the batter patience.

The coachers should always be awake to have the umpire declare on "block balls," so that his teammates may know what to do when there is any doubt about the matter. The coachers should be as equally wide awake to have the umpire declare infield or outfield hits whenever they occur. Base runners and fielders should do the same, so that they may know how to act.

Batting: The leading batter should be a good waiter, a good hitter, and a good base runner. Second and third hitters should be good bunters as well as good hitters. They should be good base runners. Fourth batter should be a clean-up man. The best batter remaining should bat fifth. After that the batters are a mixed lot. A poor-looking batter who is a good hitter can sometimes be placed well down the batting list to good advantage. The opposing pitcher does not pitch so hard against the latter part of the batting order, as he does against the leading men, and for that reason a hard hitter down near the bottom will often surprise the opposing pitcher and team as well.

Bunting: There are several kinds of bunts; bunt for sacrifice hit, bunt for safe hit, and drag bunt, which is also done with the intention of securing a safe hit. A great deal of time should be spent in practice upon bunting, because one never knows when a bunt will win a game, and when a bunt is wanted it is a great thing to know that the batter is able to lay the ball down properly.

Nine out of ten times the opposing team knows when a batter is about to attempt a sacrifice bunt. Since that is the case there is no use in trying to disguise the intention. The all-important thing is to place the bunt so that it will be impossible to throw out the runner who is advancing. Since, then, it is extremely important that the ball should be properly bunted, the batter should place himself in the best possible position to bunt. When the pitcher draws back to throw, the batter should step forward and be ready to bunt before the ball leaves the pitcher's hand. Then the batter is in a position to direct all of his attention to bunting the ball.

There are various methods of holding the bat while in the act of bunting. One method is to slide the upper hand out to the middle of the bat. A second method is to slide both hands out to the middle of the bat, so that the big end of the bat is used in meeting the ball. Still another method used by some batters is to hold the bat in almost the ordinary batting position, perhaps with the upper hand out a little, to make it easier to control the bat. To bunt toward third the right hand batter will have to hold his bat about parallel to the base line running from second to third. A left-hand batter will have his bat, to bunt toward first, about parallel to the base line from first to second. Practice in bunting will soon teach the angle at which bat must be held to place a bunt in various positions.

In making a bunt with the intention of securing a safe hit, the batter must disguise his intention until the last moment. He must hold his bat in his usual batting position while waiting for the ball to be delivered. Then he quickly gets into bunting position, and after laying the ball down, he must sprint to first for all he is worth.

A drag bunt is used by left-hand batters and is made by swinging the bat around at full arm's length with the hands in the usual position on the bat, and bunting the ball on the run. The bunt should be too fast for the pitcher to handle, and so slow that the first baseman will not be able to field it and beat the batter to first. The ideal place to place the bunt is about midway between the first base line and the pitcher's plate.

In all bunting the batter should use a big light bat. He must watch the ball like a hawk. Often when a batter goes up with the intention of bunting, he loses all thought of looking for a good ball to bunt, and as a result he will attempt to bunt the worst kind of balls. When a man goes up to the plate to bunt, he should bunt before he starts to run unless he is attempting the drag bunt. His first duty is to bunt the ball properly, and then he does the best he can to save his own neck at first. Because of the fact that a batter intending to bunt

will strike at poor balls, the pitcher should pitch high fast ones that are poor balls. Some batters use the handle of the bat in bunting, but that is too difficult for any except the cleverer batsmen.

TEAMWORK AT BAT

It is very essential to impress amateur ball players with the necessity of exercising patience in waiting when at bat. Generally all of them strike at the first ball within reach, instead of waiting until the ball is over the base. Not only is it essential that they hit at good balls, but it is often best for the batter not to strike even when the ball is over the base. For instance, if the batter has three balls and no strikes, with nobody on bases, he should certainly take one strike and in some cases two, before striking at the ball, the reason of course, being that he is trying to work the pitcher for base on balls.

The following rules should be followed in batting:

Nobody on Base: The first man up in an inning should generally wait a pitcher out by not striking at the ball until one strike is called on him. A base on balls to the first batter in an inning puts the team and the pitcher in a bad hole. If the call on the batter is three balls, no strikes, he should take two strikes. If the second man up is a good batter and a poor runner, let him hit. If he is a good runner and a weak batter, he had better wait the pitcher out, but should use his own judgment. With three balls and no strikes, it is advisable to take two strikes; always take one. Wait fairly well, but not so strong as first man. The third man up should be more free in his hitting.

Man on First, Nobody Out: If the score is close, so that the team is playing for one run, the most advisable play is the sacrifice, but whether he sacrifices or not depends upon his ability to do so successfully. There should be no set system to tie the batter down. If the first and third basemen are coming in fast to play for a bunt, then switch the usual order and hit the ball through them. Such a hit will often go for a single because the infielders are caught on the run and cannot field as effectively as when waiting for the ball. If they do

field the ball, it is seldom that a double play will be made because the infielders are all drawn out of their positions, and no one will cover the bases. The sacrifice should never be used when the team at bat is badly behind in the score.

The hit-and-run play may be used instead of the sacrifice; it is played upon signal. The base runner signals the batter that he will steal on the next ball, and it is the batter's duty to hit that ball.

A line drive into a fielder's hands almost always results in a double play, but a base hit will generally advance the runner two bases. It is a good plan to have the batters use it once in a while in order to keep the third and first basemen on the opposing team guessing.

Run and Bunt: Upon signal, with a fast runner on first and a sure bunter at the bat, let the runner start with the pitcher's arm. The batter bunts toward third. The runner turns second and looks to see whether third is covered. If not he goes on to third. This play will often catch the pitcher and third baseman asleep.

Runner on Second and Nobody Out: It is more important for the batter to bunt in this case than when the runner is on first base. That is, if only one run is needed. If a team is three or four runs behind, then all base stealing and bunting must be stopped and every batter hit. The batter should bunt towards third because the third baseman cannot play in to get the ball fast, for if he does so the runner will steal. If the batter has the pitcher in the hole, he should hit.

Runner on Second and One or Two Out: The batter should bunt only when he is a very weak batter. A hit is what is wanted in this situation. A base on balls will not score the runner. If the batter is a weak man with the stick and he is followed by a good hitter, when one is out, he should work the pitcher for a base on balls if he can.

Runner on Third with Nobody, One or Two Out: The batter should hit the first good ball pitched, and he should not be too particular in looking them over. If the pitcher wabbles so that the batter sees a good chance for a base on balls, then

he should try to get it and steal immediately. A hit will then score both of them.

Squeeze Play: Done upon signal by word or sign. It should be tried only when there is one man out, and when a good bunter is up. The runner starts for home with the pitcher's delivery and the batter bunts the ball either towards first or third. The only defense for the squeeze play is for the pitcher to keep his eyes open, so that he will see the runner start from third. Then he should throw the ball, so that is hard for the batter to bunt it. A runner may also be scored from third on a regular bunt without using the squeeze play. Let the runner keep up on his toes and come down the base line with the pitcher's delivery just as he would do if he expected the batter to hit. Then when the batter gets a good one to bunt, he lays it down and the runner continues home.

Runners on First and Second, Nobody Out: It is imperative to bunt unless the batter cannot bunt. In that case, he had better swing, or wait the pitcher out, if the latter shows signs of wabbling.

Runners on Second and Third, Nobody, One or Two Out: The batter should hit. Even though he has three balls and no strikes, he should hit the first good ball that is pitched to him, because a hit means two runs.

Bases Full: With bases full, the batter should ordinarily hit the first good ball, because a hit will score two runs, and a long hit will score three. Should the batter have two balls and no strikes, he should hit the next ball, if it is good, provided the opposing pitcher is steady and has good control. If, however, the pitcher is wild and shows symptoms of "going up in the air," it will be best to take one strike.

D—STRATEGY AND TACTICS OF BASKET-BALL *

Origin, Development, and Characteristics of the Game: Basket-ball is distinctly an American game, having been invented by Dr. James A. Naismith of Springfield Y. M. C. A. College in 1892. It has been gradually developed to its present standardized form and has become our greatest indoor game.

* Prepared by Mr. Fred W. Luehring.

Its value for military men is due to the following characteristics: (1) It is a highly organized fighting team game, (2) it can be played in military costume, (3) the necessary equipment is simple and inexpensive, (4) it can easily be played out of doors or indoors and during all the seasons of the year, and (5) it is primarily a game for men, calling for a high degree of physical vigor, individual initiative, quickness of decision and movement, self-control, endurance, and team play.

EQUIPMENT

For definition and description of the necessary standard equipment for playing courts, backboards, ball, etc., see Official Basket-ball Rules of the Joint Committee.

CLASS FORMATIONS

Use the squad as the basic unit for teaching basket-ball. This provides for five (5) players on a team and three (3) substitutes. Have, if possible, at least one ball and one court for each two squads. If you have less equipment, two squads could work on fundamentals in passing and handling the ball with one ball, while two other squads are using the court with another ball. In running tournaments the court can be used continuously by playing 15 minute halves with 15 minutes intermission. Two teams playing 15 minutes while two others are having their intermission.

For platoons or large units multiply equipment for squads. Have squad leaders (non-commissioned officers) act as team captains to assist in maintaining team discipline, to make substitutions, and to assist in instruction.

ORGANIZATION OF PLAYING PERIOD

Balanced treatment of essentials of game can be given by organizing the basket-ball practice period of an hour as follows:

I. Mass instruction on fundamentals of (a) handling ball by catching, passing, dribbling, goal shooting, following shots, (b) individual shiftiness by practicing pivots, change of pace, reverse turn, lunge and recovery, etc. and combinations of (a) and (b) for first 15 minutes.

II. Mass instruction on (a) signals, plays from center and out-of-bounds, (b) a systematic general method of advancing ball towards the goal during scrimmage or game other than plays from center and out-of-bounds, (c) a brief review of fundamentals of individual defense and team systems of defense for second 15 minutes.

III. Scrimmage or game for next two periods of fifteen minutes or ten minute periods with five minute intermission. During intermission correct errors in individual and team play and explain strategy of individual and team play. When practicing fundamentals under (I) and (II) work may be varied by practicing first without opposition, second with mild opposition, and third with real opposition. When the team has developed to the point where they participate in regular match games or tournaments, practice on fundamentals should be continued as a warming-up process, but reduced to about 15 minutes, consisting of field and foul goal-throwing, with passing and dribbling.

Mass methods of instruction can be carried still further by appointing a Field Officer as official time-keeper, who indicates beginning and end of each period for any number of units by distinctive signal, such as a pistol shot. The same system of time keeping can be followed for a series of games on adjoining courts by modifying playing rules so as to eliminate the usual time out, or calling one or more fouls on a given team for taking time out, and by permitting unlimited re-substitution, thereby permitting substituting back and forth in cases of injury or fatigue.

Still another method of mass basket-ball can be used, (1) by playing a larger number of players on a given side, or (2) by playing a larger number of players on each side, and playing two balls simultaneously on a given court.

HANDLING THE BALL

Every team should be thoroughly and frequently drilled in the best methods of handling the ball. This includes passing, catching, dribbling and goal-shooting. Every player should

have daily practice in passing. The long pass, the short pass, the backward pass and the bounce pass are different kinds of passes which a player should master. The long pass should be made in an overhand manner. This makes it more difficult to block and more easy to catch. A short pass should be practiced both overhand and underhand. The backward pass is used in case he reverses or pivots and passes the ball away from his goal to a team mate who comes dashing in to meet it. The bounce pass is a very quick and effective method of getting the ball to a team mate when it must pass an opponent who stands between them. Every player should be taught how to pass both one-handed and two-handed. A two-handed pass is perhaps the most accurate and least subject to fumbling. The dribble is a valuable method of advancing the ball by individual efforts. The ball should be pushed rather than slapped, and the bounces should be high in order that the dribbler may at all times have a clear vision of the field before him. Every player should be able to dribble with either hand alone or alternately. The dribble is an excellent play to use when you have the ball in your possession and there is no one between you and the goal. It is also a valuable method of advancing the ball at any time when your team mates are closely guarded. When a player dribbles towards the goal, his team mates should dash out of his path, drawing their opponents with them, thereby giving him an open field. The dribble should not be used when a pass is possible, the latter being much faster. Too much dribbling has a tendency to kill teamwork and to encourage individual play. Never dribble when closely surrounded by opponents.

FIELD GOAL-SHOOTING

Goal-shooting is one of the most important features of basket-ball. Every player should have daily practice in the best methods of putting the ball in the basket. When dribbling near to the basket to score, pick the ball up with both hands, having one hand under the ball and the other on top of it. Bring the ball forward and upward, spring into the air and

follow the shot with the upper hand only, shooting with an overhand push. In dribble shots it is best to approach the basket from the side and to bank the ball against the backboard. Keep your eye on the spot you wish to hit until after the ball has entered the basket. The straight push is more accurate than a lift, toss, or hook. When not shooting from dribble, it is best to pick the ball up with one hand on each side, thumbs pointing towards each other, then shoot in an overhand manner, pushing the ball upward in front of the eyes to a considerable height above the basket, so that the ball will approach the basket with a long downward movement. By so doing it will be found that as the ball strikes the rim, it may still tip inward, its momentum carrying it through the basket, otherwise it is likely to rebound well up into the air making it easy to follow. In following high shots and long shots, be sure to follow late in order that you may push the ball upward when you have attained your highest position above the floor. Following late also makes it possible to see in which direction the ball is bounding from the rim, thus increasing the chances of a successful follow shot. In shooting a goal, the ball should reach its highest point about half way between the thrower and the basket. Practice shots from near the basket, and then from different distances and different angles of the court.

FREE THROWING

Every basket-ball player should practice free throwing, *i.e.*, shooting goals from the foul line. Free throws figure in practically every game, and sometimes comprise the largest part of the score. Several methods of shooting free throws are prevalent.

1. The oldest and most common method is that in which the free thrower assumes a position with feet spread in stride-stand position. The ball is held with both hands, one on each side, the lacing upward. The throw is an underhand shot made by first bending the knees and starting the ball low down, and then straightening the legs smartly while lifting the ball upward and forward two or three feet above the

basket so that it will enter the goal with a distinct downward flight.

2. Another method, also widely used, is similar to field goal-shooting by the overhand method; the feet may be slightly separated or one foot may be advanced slightly. The knees are bent to about half squat position then straightened smartly and the ball is pushed upward and forward on a line starting directly in front of the eyes so that the ball is pushed about three or four feet higher than the basket, and so that it will have a distinct downward drive on entering the basket. In this throw, the ball is held with both hands, thumbs pointing towards each other and elbows at the sides.

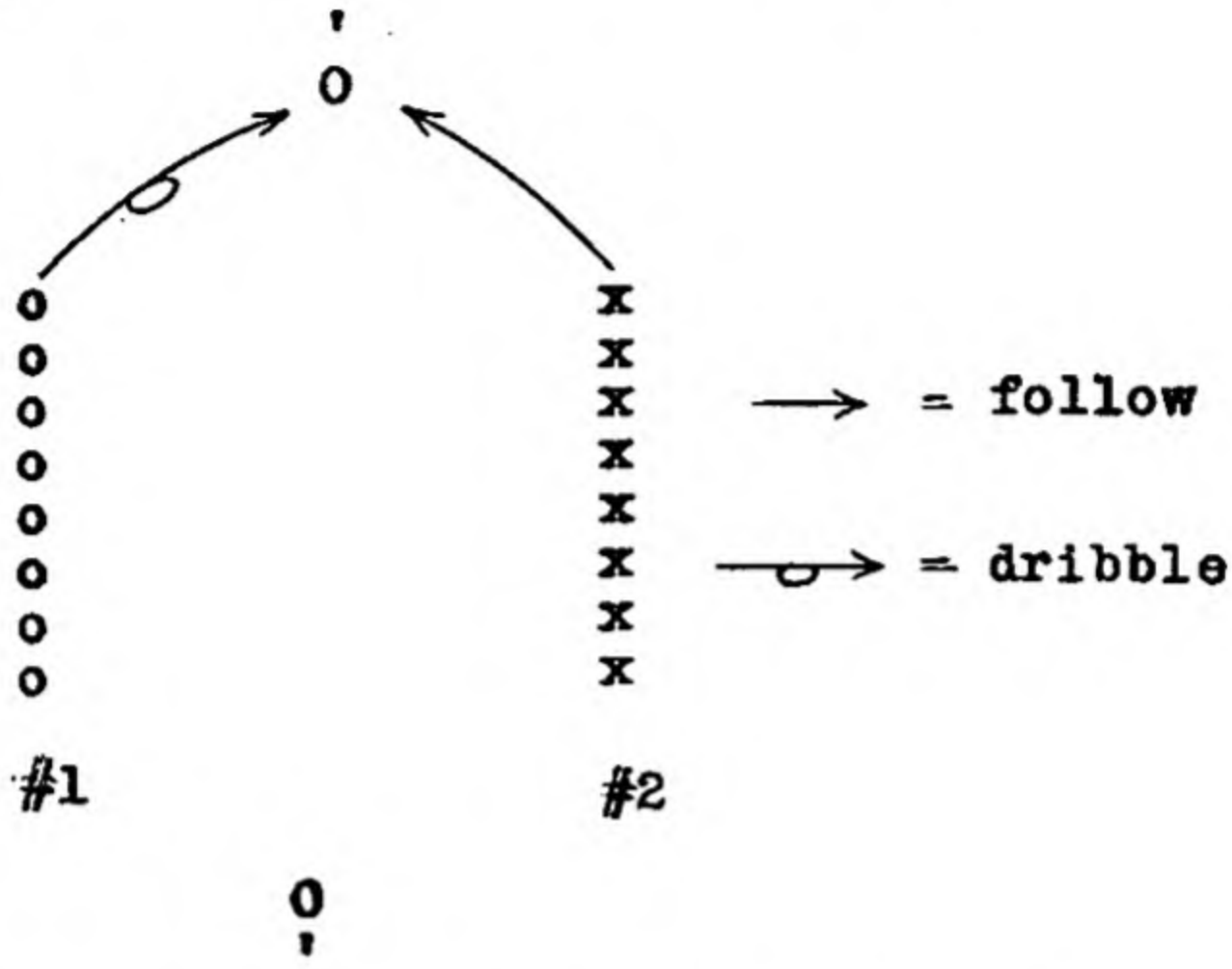
3. A third method which is gaining in favor consists of a combination of the above two methods. The free thrower usually stands with one foot slightly advanced, and the throw is made with a half-lift and half push forward. In this method the best throwers raise the ball just enough to carry it over the rim of the basket. Several of the most able free throwers of the Eastern Inter-Collegiate Basket-ball League have been using this method in recent years. Its chief disadvantage lies in the fact that in case the throw is missed, it is difficult to follow because of the lack of height.

FUNDAMENTAL PLAYS FOR DEVELOPING INDIVIDUAL AND CONCERTED SCORING POWER

Put each set of two squads through a drill consisting of the following typical manœuvers:

1. Dribble one bounce and shoot. While each member of squad No. 1 is taking his turn in this play from one side of the basket, the corresponding player of squad No. 2 stationed at the opposite side of the basket follows the shot, prepared to score should player No. 1 of squad No. 1 miss. When each player of squad No. 1 has had an opportunity to dribble, and each corresponding player of squad No. 2 has followed a shot, change positions of squads, having squad No. 1 follow and squad No. 2 dribble. Next repeat on opposite side of basket, giving men experience in shooting and following from each

side. Follow this general method for each of the succeeding plays.



2. Dribble, one bounce, lunge, recovery, shoot.
3. Dribble, one bounce, lunge, pivot outward and shoot.
4. Pivot, dribble and shoot.
5. Pivot, dribble, lunge, recovery, and shoot.
6. Shoot and follow from different distances and positions of floor. One man shoots, two follow.
7. Feint shot, pivot, and dribble in, and shoot when imaginary opponent jumps in air to block feint shot.
8. Dribble one bounce, lunge, pivot, and make backward pass to team mate who comes to meet pass and shoots.
9. No. 1 of team No. 2 cuts for basket, using change of pace; No. 1 of team No. 1 passes the ball to former when former arrives in strategic position. First player shoots, both follow.

These fundamental methods of developing shiftiness and scoring power are of immense value. When thoroughly mastered they bring rich returns in individual strategy. When dribbling, pivoting, lunging, or dodging, it is important to keep low by keeping knees slightly bent and body bent forward at hips.

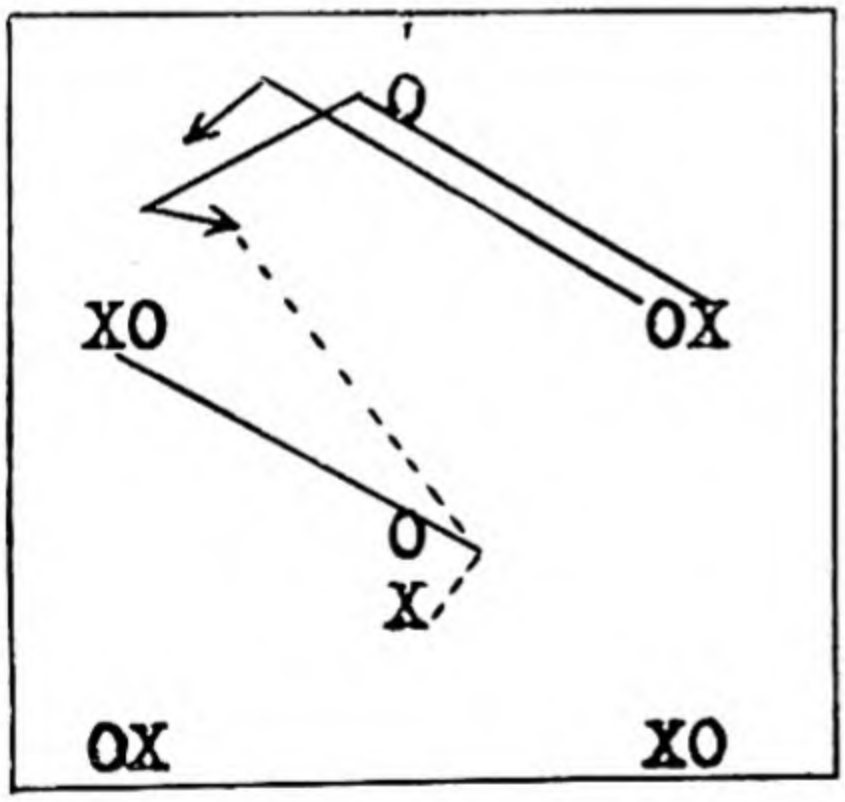
SIGNAL PLAYS FROM CENTER WHEN YOUR CENTER IS GETTING THE TIP-OFF

The basket-ball team should have a few plays from center. Three or four are usually enough. Many more may be tried, but only those should be retained which the team thoroughly masters.

It will be found advantageous to precede each play by a distinctive signal. In recent years it has become quite customary for one of the forwards to give the signals, since these players are easily visible when the ball is put in play. By having one of the forwards give the real signals and the other fake signals, it will be more difficult for the opponents to detect your code.

The following are three typical plays which might be used in putting the ball in play from center when your side is getting the tip-off.

I. Forward to Forward



X - offense

O - defense

- direction of player

------ pass

1. Suggested signal: Right forward stands with right foot advanced.

2. Center tips ball to right and slightly forward.

3. Left forward crosses over, getting the ball. If not too closely pursued, he immediately dribbles into the basket or shoots and follows.

4. Right forward dashes over into left forward's position as the ball is tossed up at center, thereby drawing his opposing guard to the oppcsite side of the floor. Right forward reverses

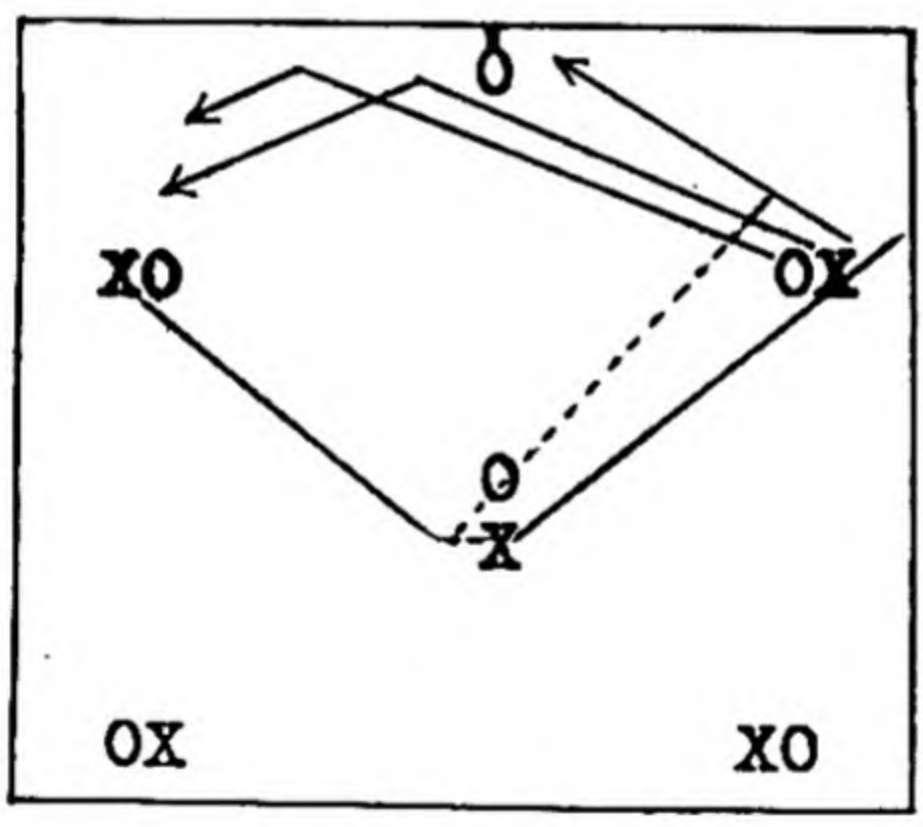
sharply, being prepared to receive a pass from the left forward, upon the receipt of which he should shoot and follow, or pivot and dribble in more closely for a shot.

5. The center delays momentarily after tipping the ball, then dashes to the left, drawing his opponent away from the ball and follows the shot of the forwards.

6. The floor guard or the guard who has the most ability in working the ball up the floor and who is the best shot, trails 15 or 20 feet back of the other three players, being prepared to receive a backward pass from them should anyone of them be unable to advance the ball.

7. The remaining guard stays well back, being prepared to ward off any sudden attack by the opponents in case his own side loses the ball.

II. Forward to Center



1. Suggested signal: Right forward brushes hair back with right hand.

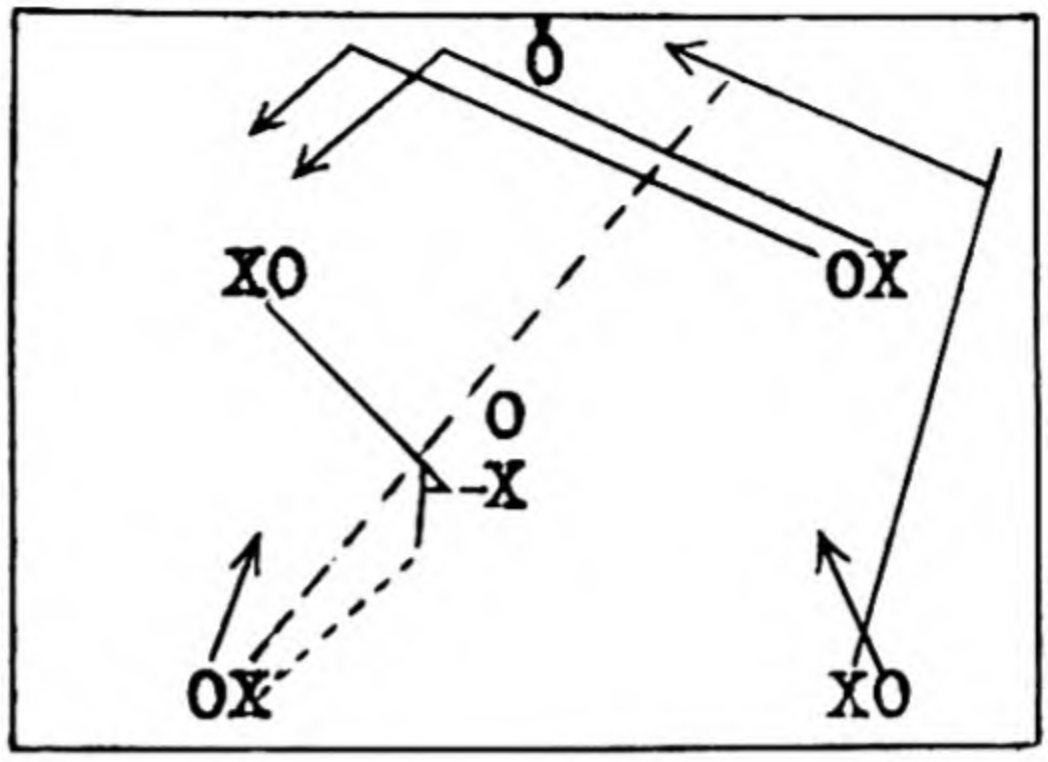
2. Center tips ball to left.

3. Left forward gets ball either on the fly or on the bounce and passes it to center who has quickly dashed out into right forward's position the latter having cut across the floor drawing his guard with him into the left forward's position.

4. Center dribbles in and shoots. All three follow.

5. The guards play as in play No. 1.

III. Forward to Guard to Guard



1. Suggested signal: Right forward places right hand on his right knee.

2. Center tips ball to left.

3. Left forward dashes in getting the ball and passing it directly into the hands of the left guard who has remained well back in the opponent's territory.

4. Right forward again dashes across to left forward's position as in the preceding plays.

5. Right guard remains stationary until he sees that his own left forward has secured possession of the ball on the tip-off, then he dashes at full speed down the side lines, cutting in sharply towards the basket when he is on a line with the foul circle. By this time he should have a good lead on his opponent. Consequently, he eases up to receive a long pass from the left guard. He dribbles in and shoots.

6. The center waits until his left guard has received the ball, then he cuts sharply to the left and follows right guard's shot along with right forward.

7. Right forward and left guard play it safe in the back field. Numerous other plays will suggest themselves. In all plays it will be found advisable to clear a strategic spot near the basket into which a certain player can dash, having first eluded his opponent by change of pace or other strategy. His team mates pass the ball to him at the opportune moment, enabling him to shoot with little or no opposition. Every shot

for a goal should be followed in turn by two or three players who compose the team's chief offensive power. The remaining two players act as trailers in a kind of secondary line, which enables them to defend the back field in case of a fumble or misplay, and also enables them to receive a backward pass should one of the forward players become cornered with the ball.

SIGNAL PLAYS FROM CENTER WHEN OPPONENTS ARE GETTING THE TIP-OFF

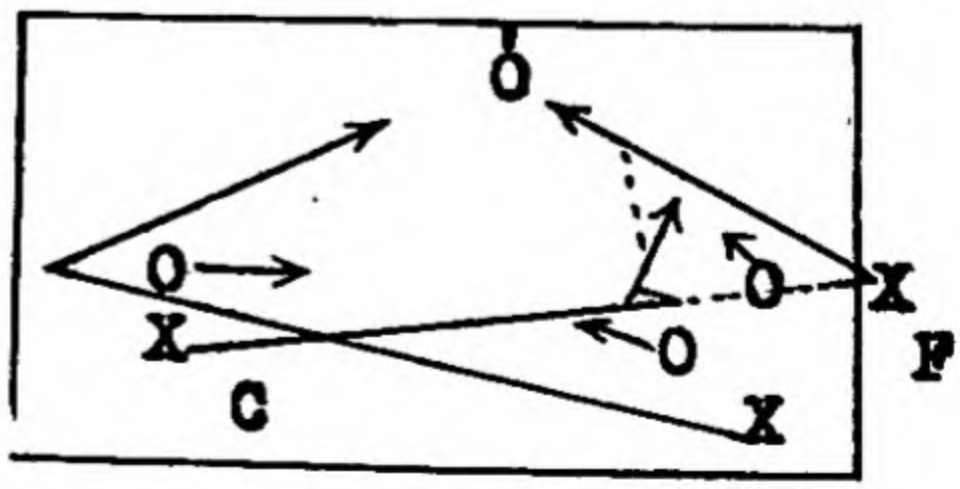
While most teams are prepared with signal plays from center when their own center is getting the jump, few teams realize the possibilities of signal plays even when the opponents are getting the toss. Forward to forward plays are practically impossible under these circumstances. However, forward to center, and forward to guard to guard plays are easily possible. The procedure is as follows: Whenever the opposing center is getting the jump have both of your forwards come in with the utmost speed, each being prepared to secure the ball should it be tipped to his side. If a forward to center play is desired the signal for such play is given, after which the forward who receives the ball at center passes it to the center on the opposite side as in signal plays indicated above. If a forward to guard to guard play is desired, both forwards again come in sharply. The forward who secures the ball passes it directly to the guard on the same side, who in turn makes a long pass to the other guard who has dashed down the side of the field as explained in a previous guard play.

PLAYS FROM OUT-OF-BOUNDS

Every team should have one or two good plays from out-of-bounds. The following two are good examples:

I. Ball is out-of-bounds on side of court.

1. Suggested signal: Supposing right forward has the



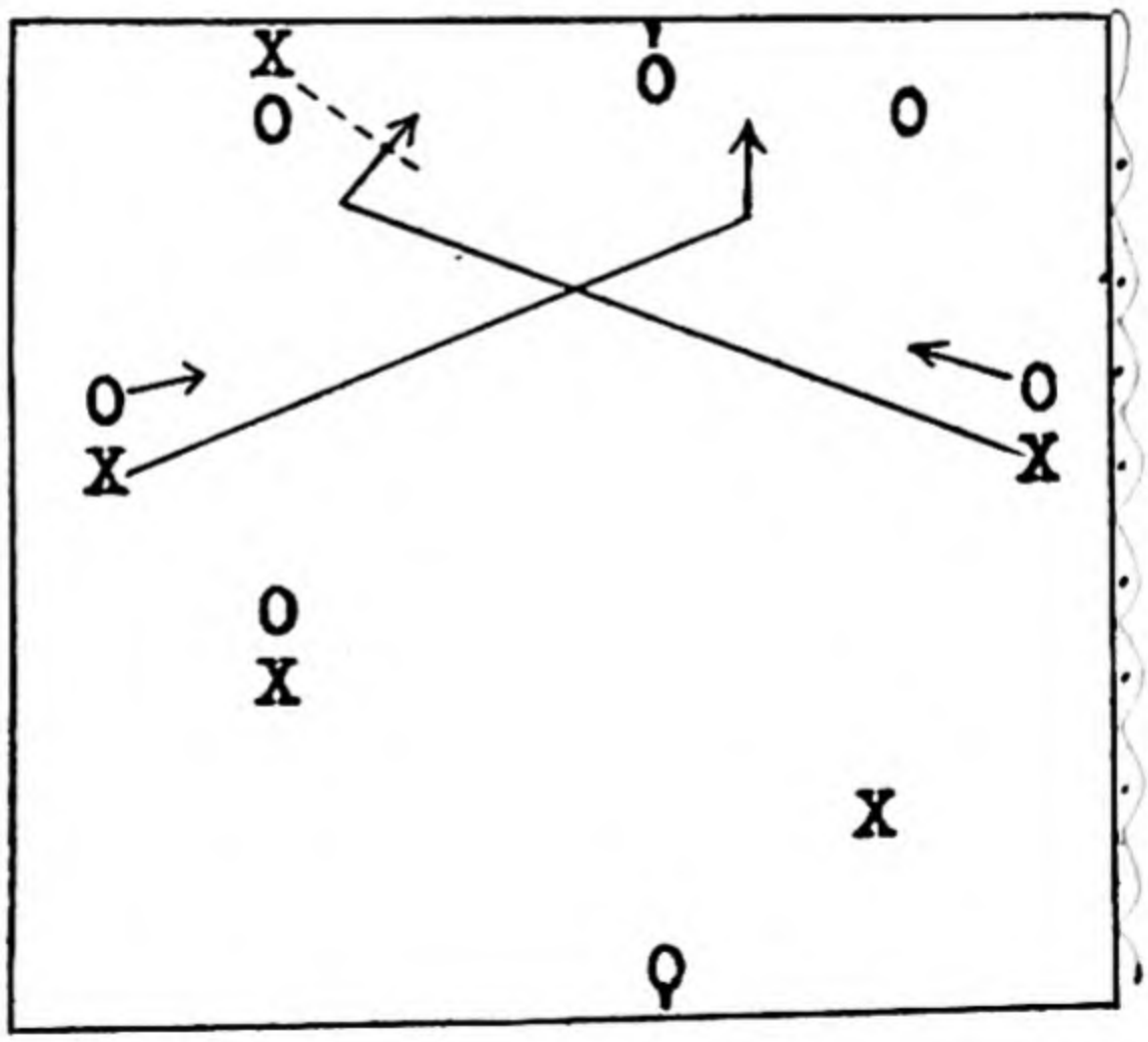
ball out-of-bounds. He secures it quickly, holding it on his right side.

2. The center lines up immediately on the opposite side of the court, and the left forward lines up near the spot where the ball is out-of-bounds.

3. As soon as the right forward is ready to pass the ball in, the other two players crisscross as indicated in the diagram. The ball is passed to the center, who comes to get the pass. After passing the ball, the right forward hesitates momentarily, then dashes sharply for the basket, receiving a return pass from the center, who, after making the return pass, continues straight forward a few steps, delaying the right forward's opponent momentarily.

II. This play starts the same as No. 1, but ends differently. The right forward passes the ball to the left forward, who has circled across the court, receiving the ball as he is approaching the basket.

III. Suppose the center has the ball out-of-bounds at the end of the court near his own basket.



1. Right and left forwards instantly take positions 15 or 20 feet back in the field of play and on opposite sides of the court.

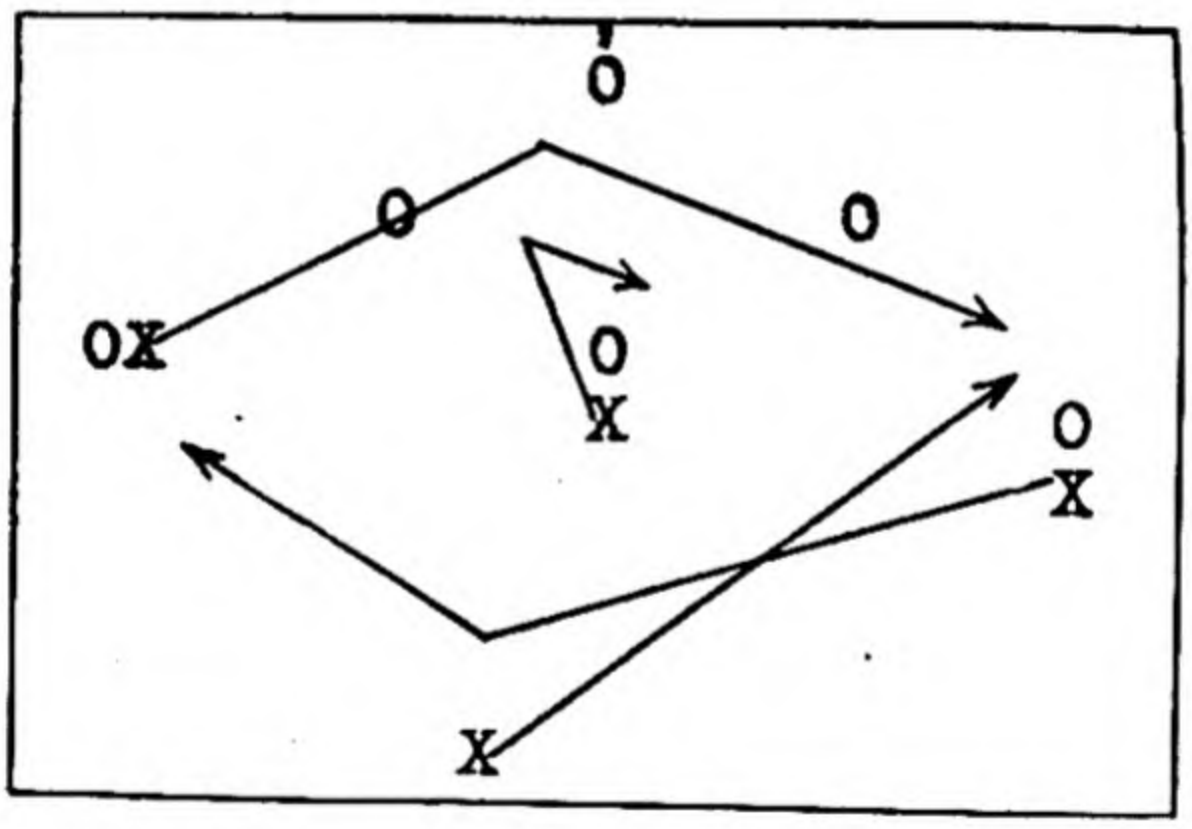
2. Just before the ball is to be passed in either (a) crisscross sharply towards the goal, the ball being passed to the one who

has the biggest lead on his opponent, or (b) dash straight for the basket, the ball being passed to the one having the biggest lead, or (c) one of the guards comes down the floor about 15 or 20 feet back of the forwards, prepared to receive the ball and to shoot or dribble in, in case the forwards are too closely guarded.

SYSTEMATIC METHODS OF OFFENSE OTHER THAN SIGNAL PLAYS FROM CENTER AND OUT-OF-BOUNDS

Each team should have definite and simple systems of advancing the ball towards the opponent's goal from any part of the floor. Various effective methods have been evolved.

One of the best methods is that of three men going down the floor followed by a guard who acts as trailer. This may be conducted somewhat as follows:



The center advances down the middle of the court with one forward on each side of him near the side lines. They advance the ball between them by passing to each other as they dash down the field in short spurts and crisscrosses. The dribble is also employed whenever it appears to advantage to do so. One guard, who acts as trailer, follows about 15 or 20 feet back of the forward line, shifting from side to side so as to keep as much as possible directly back of the man with the ball. If the man with the ball is stopped or cornered, and can-

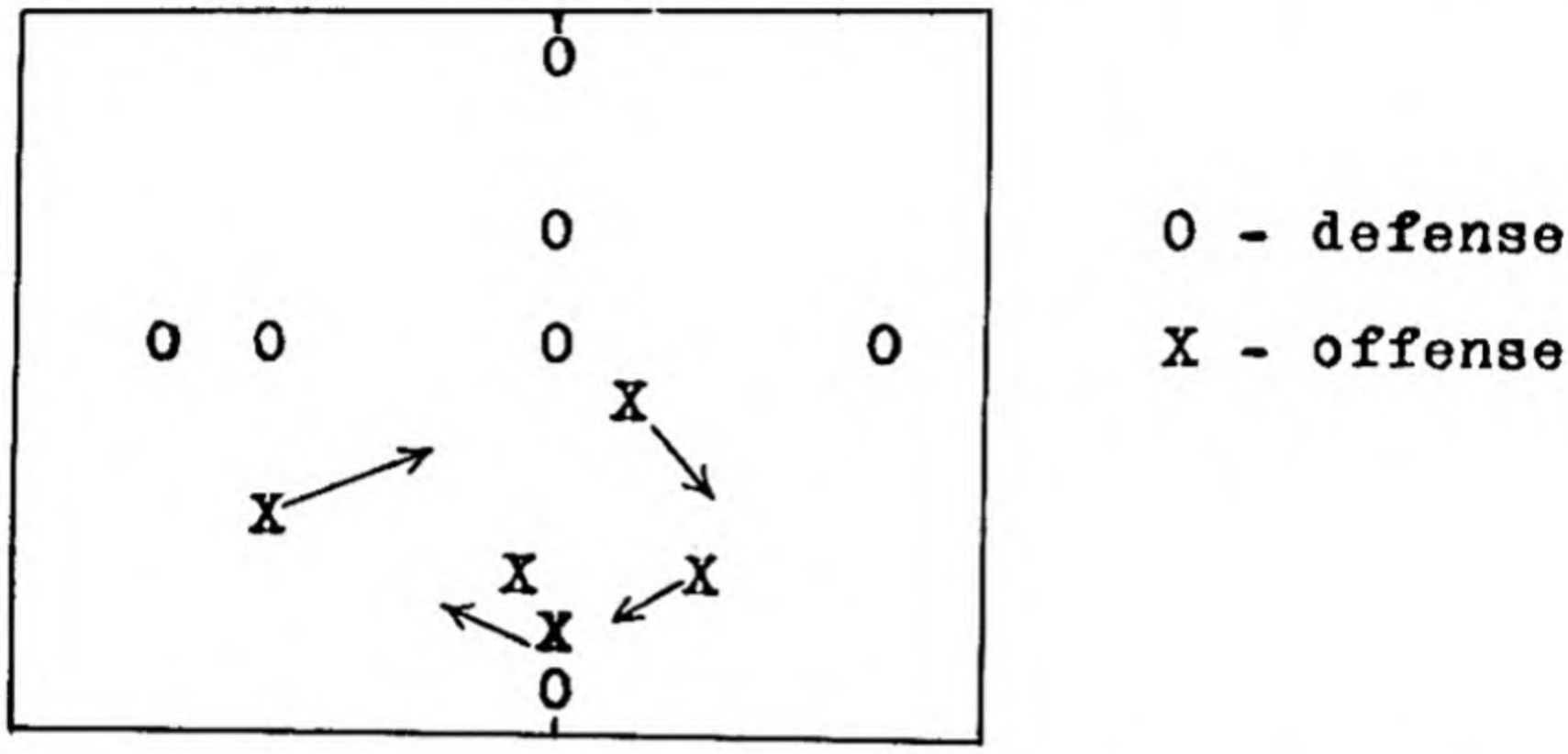
not pass to another man of the forward line of offense, he wheels about and passes the ball back to the trailer, who comes forward, catching the ball on the run. The trailer may return the ball to someone in the front line or he may dribble forward as far as possible, entering the front line himself, in which case the man from whom he received the ball takes the trailer position until the guard returns to his post. The remaining guard follows the play from a point still further back, securing his team against a quick attack by the opponents in case of loss of the ball. This method of attack may also be varied slightly by having both guards alternately take part in the forward line while one of the forwards or the center acts as trailer.

Another systematic method of offense which is particularly effective is sometimes called a defensive offensive. It is played with a circular formation, three players circling about one of their team mates, who acts as pivot man with the ball. The remaining player acts as trailer. This circular formation gets under way in the back part of the court, the ball being passed back and forth, but kept in the hands of the pivot man most of the time, the intention being to draw the opponents out from under your goal and well into the back of the court, and to get them following their opponents around the circle. Suddenly a player of the offense, having eluded his opponent by a quick pivot or reverse, or other form of strategy, dashes down field towards his goal and receives the ball on a long pass from the pivot man and scores before his opponent can overtake him.

This style of play can be made very effective with practice. The players may take turns in acting as pivot man or in any other position. If cornered with the ball, pass it backward to a team mate who comes to meet it. The man who passed it then takes up his position in the back court, first as trailer, then in the circle or the pivot position.

This method of offense is also particularly effective if your team is in the lead in the last few minutes of play. The ball is kept safely in your possession in the back court, every effort

being made to keep it away from the opponents by shifting about the circle and back and forth to the position of trailer or pivot. Should the opponents all come down the field, one man at a time tries to beat his man down the field so as to receive a long pass, which may be converted into a sure goal.



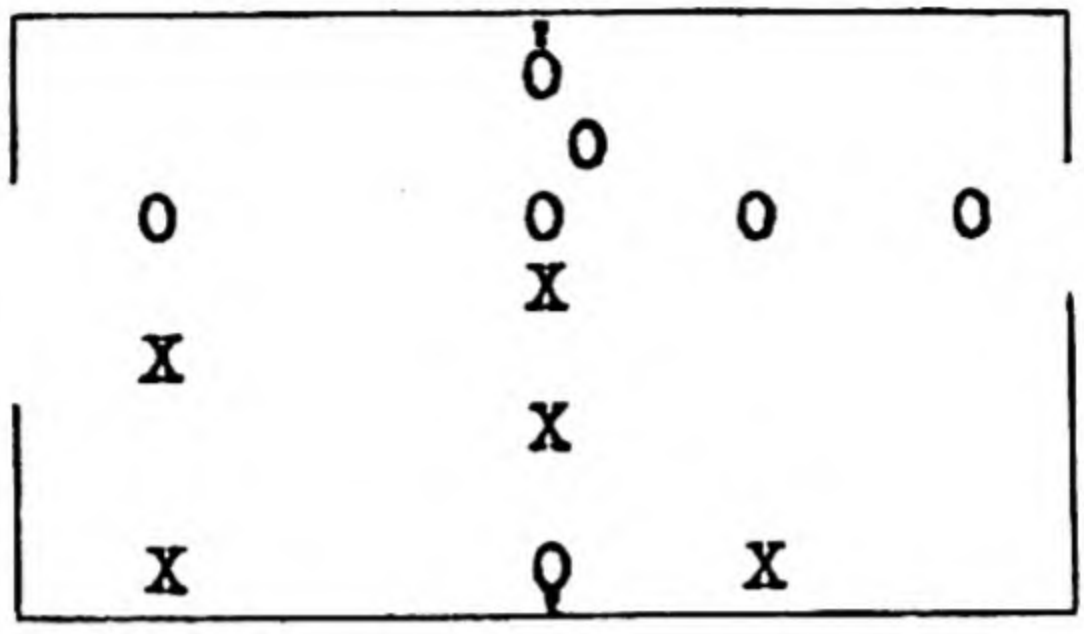
The pivot man uses careful judgment and passes the ball down the court only when he sees that the man who has gone down has practically a sure chance to score. Loss of the ball gives the opponents an opportunity to score. This must be prevented by all legitimate means. Every effort is made therefore to keep the ball away from the opponents, passing it back and forth in the back part of the court and trying for goal only when an unusual opportunity presents itself. This style of play is particularly effective in keeping possession of the ball. It is, however, not designed to run up large scores.

SYSTEMATIC METHODS OF DEFENSE

Every player should be trained in the fundamentals of individual and team defense. In individual defense it is necessary to follow the fundamental principles of (1) keep between your opponent and his goal and (2) keep on your toes.

Each team should also be taught one or more systematic methods of defense. One of the best methods, and one which is

widely followed, is called five men on defense. It is played as follows:



After the ball is lost to the opponents under your own goal, immediately draw your own five players back about one-third the distance to the opponent's basket and line them up across the floor. This alignment must be placed so that the opponents will be headed off before they get within shooting distance of their goal. As an opponent approaches to or beyond this alignment, each man of the defense takes his own opponent on offense and sticks with him. In this way it will be possible to cover the opponents closely when they get within shooting distance, thereby causing them to resort to wild or hurried long shots.

A variation of this method which is also extensively followed is that of five men back on defense, but having each man take the opponent nearest him as they come down the floor. While this simplifies the amount of shifting a given player must do, it calls for much greater versatility in guarding, since a given player must be familiar with the style of play of every member of the opposing team.

A third method of defense is that of covering your opponents all over the floor. This is particularly effective if you have a fast and shifty team, since it crushes the opposing offense before it gets well under way. If the opposing forwards are fast, however, and your own guards are slow, the opponents will have the advantage in this style of play because they can beat the guards down the floor.

OFFICIATING

Basket-ball is more difficult to officiate than any other highly organized game. In fact poor officiating is the chief obstacle to the successful progress of the game. Good officials can be developed, and they can be developed in the army as well as in civil life. Each coach should call for volunteer officials. If sufficient candidates do not respond, additional men should be appointed. These men should be fast since they cover nearly as much territory as the players. Officials should have good eyesight, be cool-headed, and should have good voices. They should be able to render quick and accurate decisions. Every official should be a master of the Official Rules as laid down by the Joint Basket-ball Rules Committee.

CHAPTER XIV

CAMP ATHLETIC ORGANIZATION

The great contribution which general participation in competitive athletics makes to the physical efficiency, morale, and *esprit de corps* of a command justifies the adoption of special methods for the promotion and administration of athletic contests of all sorts among the soldiers. Every effort should be made to organize teams on a basis which will include every soldier in some form of competitive sport, and which will instil in him a pride in his own efficiency and in the athletic standing of his unit. The weaker and less aggressive members of the units should be encouraged to take part in some competition.

The spirit of rivalry in physical efficiency grades and in the various branches of sport should be stimulated among platoons, companies, and other units.

The athletic work in the formal drill period, the supervised athletic games, and the highly organized competitive games should all be coördinated to this end, and can be handled most satisfactorily by a definite organization which may be called the Camp Athletic Council. The physical and bayonet training officer will naturally be a very important member of this group.

The Council should consist of a chairman appointed by the commanding officer, the physical and bayonet training officer, the education and recreation officer, and a representative from each regiment or similar unit in the camp.

The Camp Athletic Council should elect a secretary and a treasurer who, together with the Chairman, the Physical and Bayonet Training Officer, and the Education and Recreation Officer should form an Executive Committee.

Meetings of the Council should be held weekly or by call of the chairman.

The treasurer should handle all the athletic moneys of the entire camp from whatever source they may be derived.

All proposed expenditures should be authorized by the Camp Council, or by the Executive Committee, and approved for payment by the chairman of the Council before being paid by the treasurer. A thoroughly up-to-date system of bookkeeping and banking should be adopted, somewhat along the line in force in the Post Exchange. All moneys should be deposited in the bank and all bills paid by check. The accounts should be audited each month by the official camp auditor, and a financial statement properly audited should be made a part of the treasurer's records and a copy furnished to the camp commander.

The Camp Athletic Council should assume the responsibility of securing all athletic equipment, whether by purchase or by issue from the Athletic Subsection of the Education and Recreation Branch, the War Plans Division in Washington, and should supervise the distribution of this equipment among the teams representing the different units in camp, so that it will be put to the best possible use. This plan of securing athletic equipment will prevent a great deal of waste which attends the purchase of equipment of varying prices from various dealers. Much better terms can be obtained when the local dealers know that all purchases must be made through one official in a given camp.

Each regiment should have an athletic council consisting of a chairman, appointed by the regimental commander, and one officer from each company. The camp athletic treasurer should have charge of, and be responsible for, all money belonging to each regimental council. The funds of each regiment should be carried on a separate account.

Each company should have an athletic committee composed of an officer as chairman, and an officer, a non-commissioned officer, or a good private to represent each branch of sport organized in the company.

All athletic schedules and policies suggested by regimental and company athletic committees must be submitted to the Camp Athletic Council and approved by it before being put into effect.

The physical training officer should with the coöperation of the Camp Athletic Council and the athletic committees of each company promote periodical contests among the squads, platoons, and companies in the physical efficiency tests. This officer should also make provision for the assistance of the athletic representatives of the various units in the organization and conduct of athletic contests, and for such supplementary training as may be necessary to enable the weaker members of given units to pass the individual physical efficiency tests.

A program of athletic activities conducted by the camp athletic authorities along the lines indicated will prove to be of great value in promoting physical efficiency and contentment, as well as affording a healthful form of recreation for the soldier during his leisure time.

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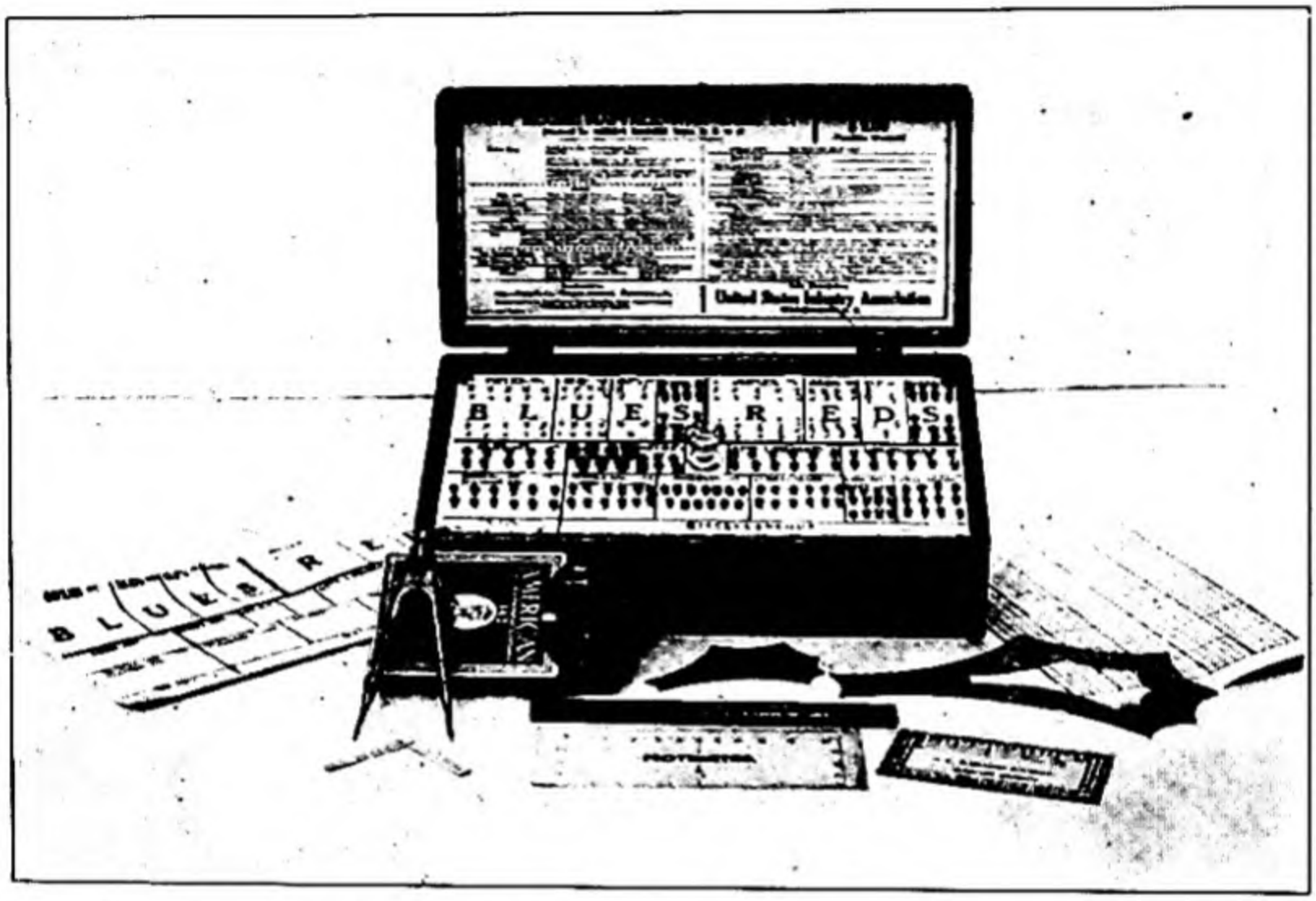

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